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Progress Report of the Forestry Support Program (FSP) 1988



PROGRESS REPORT OF THE FORESTRY SUPPORT PROGRAM (FSP) 1988

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The Forestry Support Program is a unit of the International Forestry Staff of the U.S. Department of Agriculture's Forest Service and is jointly managed by the Forest Service and the U.S. Department of Agriculture's Office of International Cooperation and Development. Funds for the program are provided by the U.S. Agency for International Development, primarily from the Bureau for Science and Technology through its Office of Forestry, Environment, and Natural Resources.

This Progress Report of the Forestry Support Program (FSP) for fiscal year (FY) 1988¹ is the fourth annual overview of FSP's efforts to assist the U.S. Agency for International Development (A.I.D.) in designing and managing its tropical natural resources endeavors. This report to A.I.D. summarizes FSP's support of the programs and projects of A.I.D.'s central bureaus and country missions worldwide.

FSP is guided by A.I.D.'s *Environment and Natural Resources Policy*, published in 1988. This policy establishes the goal of "promoting environmentally sound, long-term growth, by assisting developing countries in conserving and protecting the environment, and managing their resources for sustained yields." This goal closely parallels the domestic mandate of various U.S. Department of Agriculture (USDA) agencies, especially the Forest Service.

The A.I.D. forestry and natural resources project portfolio has steadily increased in recent years. The agency's most recent *Report to Congress* notes that nearly 200 forestry and natural resources projects were active in FY 1987, with over \$80 million spent to promote improved management and conservation of tropical forests in more than 50 developing countries. In close coordination with the Office of Forestry, Environment, and Natural Resources (FENR) of A.I.D.'s Bureau for Science and Technology (S&T), FSP serves as a focal point for A.I.D.'s increasingly dispersed natural resources management staff and contractors and as a primary link between A.I.D. and the natural resources community at large.

The chapters of this report correspond to the basic objectives of FSP, as determined by its primary funding source, the Forest Resources Management Project (No. 936-5519). These chapters are "Technical Consultations," "Roster Development and Referrals," "Forestry Program Studies and Technical Reference Services," "Training," "Technical Support to Research," "Forestry Private Enterprise," "Agroforestry," "Forestry Supported by Food Aid and Voluntary Organizations," and "Social Forestry." The

report also contains appendixes highlighting this year's roster use, overseas consultations funded by FSP, profiles of new staff members, and reports produced or influenced by FSP.

Funding and support for FSP activities diversified in 1988. The Forest Resources Management Project continued to be the primary source of funding for FSP, but several other sources also provided significant input. Funding from A.I.D.'s Office of Rural and Institutional Development (RD) enabled FSP to implement a comprehensive agenda of social forestry activities, which is highlighted for the first time in a separate chapter of this report. A.I.D.'s Bureau for Program and Policy Coordination (PPC) and the USDA Forest Service International Forestry Staff supplemented S&T/FENR funds so that FSP could vigorously pursue cooperative efforts with Peace Corps- and food-aid-assisted forestry.

The A.I.D. Bureau for Africa's Office of Technical Resources provided funds from its Natural Resources Management Support (NRMS) Project for FSP to expand the training of African natural resources managers and improve cooperation with non-governmental organizations and private voluntary organizations in Africa. Several A.I.D. missions co-funded FSP endeavors during the year by paying travel costs and the in-country expenses of visiting advisers. Finally, the FSP staff was enriched this year by short-term assignments of individuals from other units of the Forest Service and from universities. In all instances, these units contributed salaries of these people while they worked with FSP on behalf of A.I.D.

Future prospects are especially promising for FSP. The Forest Resources Management Project is scheduled for a formal evaluation during late 1989. This will provide a useful assessment of FSP's effectiveness during the past decade and a look at emerging opportunities. As such, it will set the stage for revitalizing FSP as it seeks to improve on the services it provides to A.I.D. missions and bureaus.

¹Unless otherwise indicated, all references to 1988 indicate the fiscal year, not the calendar year.

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List of Abbreviations

A.I.D.	Agency for International Development
AIMA	Wood Products Manufacturers Association of Ecuador (translated)
ANE	A.I.D. Bureau for Asia and the Near East
BOSTID	National Academy of Sciences Board on Science and Technology for International Development
CATIE	Center for Tropical Agricultural Research and Training (translated), Costa Rica
CORMADERA	Center for Technical Support to Wood Products and Furniture Industries of Ecuador (translated)
CUMAT	Center for Investigation of Land Use Capability of Bolivia (translated)
DASP	USDA Forest Service Disaster Assistance Support Program
DESFIL	A.I.D. Development Strategies for Fragile Lands Project
FAO	Food and Agricultural Organization of the United Nations
FENR	A.I.D. Office of Forestry, Environment and Natural Resources
F/FRED	Forestry/Fuelwood Research and Development Project
FPEI	Forestry Private Enterprise Initiative
FSP	Forestry Support Program
FY	Fiscal year
GIS	Geographic information system
ICRAF	International Council for Research in Agroforestry, Kenya
IIED	International Institute for Environment and Development
INFORDE	FPEI Private Forestry Initiative for Development (translated), Ecuador
INSOTEC	Institute for Socioeconomic and Technological Research (translated), Ecuador
ISEC	USDA OICD International Science and Education Council
ISTF	International Society of Tropical Foresters
ITTO	International Tropical Timber Organization
IUCN	International Union for the Conservation of Nature and Natural Resources
MPTS	Multipurpose tree species
MTAP	Market and Technology Access Project
NAFC	FAO North American Forestry Commission
NAPFSC	National Association of Professional Forestry Schools and Colleges
NFTA	Nitrogen Fixing Tree Association
NGO	Nongovernmental organization
NRMS	A.I.D. Bureau for Africa Natural Resources Management Support Project
OAS	Organization of American States
OFDA	A.I.D. Office of U.S. Foreign Disaster Assistance
OICD	USDA Office of International Cooperation and Development
OTS	Organization for Tropical Studies, Costa Rica
PPC	A.I.D. Bureau for Program and Policy Coordination
PVO	Private voluntary organization
RD	A.I.D. Office of Rural and Institutional Development
ROCAP	A.I.D. Regional Office for Central America Programs
SCFER	Southeastern Center for Forest Economics Research
S&T	A.I.D. Bureau for Science and Technology
TFAP	Tropical Forestry Action Plan
USDA	U.S. Department of Agriculture
WWF	World Wildlife Fund

Chapter 1

Technical Consultations

Overview

FSP frequently supports A.I.D. missions and bureaus by providing technical assistance to forestry and natural resource projects worldwide. Advisers assist with designing, implementing, and evaluating A.I.D. projects.

In most instances, A.I.D. missions directly fund advisers. FSP assists by identifying and referring qualified consultants and obtaining clearances. Technical briefings are provided for advisers in advance of their travel, whenever practical. FSP continues to fully or partially fund consultations in countries where A.I.D. funding is currently limited but mission followup activities are likely. FSP also makes its own staff available for short-term assignments and helps secure contributions of staff time from the U.S. Department of Agriculture's (USDA's) Forest Service and other State and Federal agencies.

To identify the most qualified available advisers, FSP searches its roster of forestry and natural resources experts. The computerized system allows FSP to rapidly identify consultants with appropriate language skills, experience, education, and technical expertise from among more than 2,400 registered specialists (see Chapter 2). The FSP roster was used to identify candidates for 147 short- and long-term assignments in 1988 (see Appendix A).

Figures 1-1 through 1-3 indicate the countries that received on-site technical assistance from FSP staff or consultants who were fully or partially funded by FSP in 1988. The maps reflect A.I.D. geographical designations. For example, Morocco and Tunisia are administered by the A.I.D. Bureau for Asia and the Near



Field consultations are a key component of FSP's program to assist A.I.D. missions. (photo by T. Resch)

East (ANE). Appendix B provides more detailed information on these advisers and their assignments. The maps and Appendix B only identify consultations for which FSP had a direct funding role; they do not include assignments by personnel identified by FSP but funded entirely by A.I.D. missions, the World Bank, Peace Corps, or other organizations. A few of the consultations occurred at conferences and workshops held in countries without A.I.D. missions (for example, Brazil, Colombia, and Chile), but most directly supported specific project activities of A.I.D. missions.

The number of overseas consultations funded by FSP increased sharply in 1988, primarily because of expanded Forestry Private Enterprise Initiative (FPEI) activity in Latin America. FSP funded 65 consultations in Latin America, 15 in Asia and the Near East, and 5 in Africa. The length of the consultations averaged approximately 12 days in FY 1988, down from 15 days in FY 1987 and 18 days in FY 1986.

Illustrative Consultations

The following examples highlight the types of technical consultations that FSP provided in 1988:

- The FSP Program Manager and the Coordinator for Africa helped prepare a biological diversity and tropical forestry assessment for the A.I.D. mission in Botswana and identified ways in which A.I.D. could support Botswana's forthcoming National Conservation Strategy.
- FSP's Coordinator for Asia and the Near East worked as part of a team that evaluated A.I.D.'s recently completed Resources Conservation and Utilization Project in Nepal.
- FSP paid the travel expenses for a District Ranger from the Forest Service's Caribbean National Forest to work with the Food and Agriculture Organization of the United Nations (FAO) on the preliminary resource assessment of nine eastern Caribbean countries in support of the Tropical Forestry Action Plan (TFAP). The Forest Service contributed funds to cover the District Ranger's salary during the 3-week assessment.
- The FSP Social Forestry Coordinator assisted the A.I.D. mission in Nepal with the social soundness analysis for the forthcoming Forestry Development Project.
- The FSP Food Aid and Voluntary Assistance Coordinator and the FSP Coordinator for Latin America and the Caribbean collaborated with A.I.D. and the

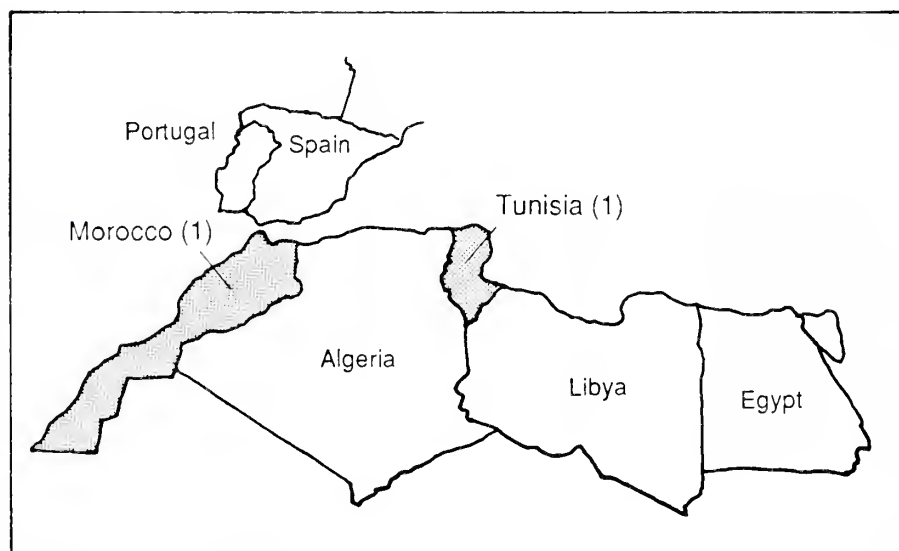


Figure 1-1: *Technical consultations provided by FSP in Asia and the Near East, FY 1988.*



Figure 1-2: *Technical consultations provided by FSP in Africa, FY 1988.*



Figure 1-3: Technical consultations provided by FSP in Latin America and the Caribbean, FY 1988.

Peace Corps to facilitate a workshop in Guatemala on natural resources and food aid in Latin America.

- FSP's Coordinator for Africa assisted with the technical and cultural training of eight Peace Corps trainees in Arizona. The trainees will be assigned to parks and conservation-education projects in Morocco.
- The FSP Special Projects Coordinator reviewed opportunities for A.I.D.'s Management of Natural Resources and Environment for Sustainable Development Project to assist private-sector forestry and strengthen the forestry planning and economic analysis capabilities in Thailand.
- FSP, through FPEI, provided travel support to send a Chilean sawmill specialist to Ecuador to advise on bandsaw operations, which are less wasteful of raw materials than other sawing methods.
- FSP's Agroforestry Coordinator assisted the Regional Cocoa Rehabilitation and Development Project in Grenada with the design of study plots that demonstrate improved cocoa management practices.

Outlook

FSP expects to maintain its high level of interaction with A.I.D. missions in FY 1989. FSP's ability to identify highly qualified resource consultants for A.I.D. missions, bureaus, and cooperators (often on very short notice) ensures that FSP will continue to play a major role in providing direct technical assistance to A.I.D. FSP anticipates continued strong demand for agroforesters, resource economists, watershed managers, and anthropologists in FY 1989, as well as an increasing number of requests for specialists in biological diversity conservation, protected area management, and coastal resources management.

FSP's core staff will continue to directly advise A.I.D. missions as requested. Each staff member will spend an average of 20 to 25 percent of the year on overseas consultations addressing the forestry and natural resource concerns of A.I.D. missions and bureaus.



FSP supported several consultations that helped A.I.D. and FAO prepare tropical forestry and biological-diversity assessments. (Photo by P. Durst)

The heavy concentration of overseas travel to Latin America and the Caribbean that occurred in 1987 and 1988 is likely to continue in FY 1989 because of expanded FPEI activities in Central America and increased Forest Service involvement with forestry development in Honduras. FSP also expects to increase activities in Africa in FY 1989, using funds supplied by the Natural Resources Management Support Project.

Roster System Development

During 1988, FSP continued to maintain and improve its roster of forestry and natural resources experts that is used to identify advisers for A.I.D. projects and for projects managed by A.I.D. contractors and cooperators. A.I.D. bureaus and missions used the FSP roster extensively, especially when natural resource advisers were needed on short notice.

Early in the year, FSP completed a comprehensive update of all roster records. Each roster registrant was mailed a summary of his or her biographical data on record. Each was asked to verify the record's accuracy or make desired changes. Over 400 inactive files were removed from the system following the update effort, reducing the number of names on the roster from more than 2,500 at the beginning of FY 1988 to about 2,100 midway through the year. The following recruiting initiatives helped FSP rebuild its roster to nearly 2,500 names by the end of FY 1988:

- Letters mailed to members of the National Association of Professional Forestry Schools and Colleges encouraged faculty and interested graduate students to register with FSP.
- Roster registration packets and invitations to register with FSP were extended to all Forest Service employees who traveled to developing countries during the year, but who were not previously listed on the roster.
- Short announcements describing the FSP roster and registration procedures were prepared for publication in *Fish and Wildlife Service News* and *ISEC Update*, the newsletter of the International Science and Education Council.
- A letter signed by the Forest Service Director of Wildlife and Fisheries was mailed to all wildlife and fisheries staff directors nationwide, urging them to support the roster applications of their employees and noting the anticipated increase in A.I.D. demand for individuals with biological-diversity management skills.
- Letters drafted by FSP and signed by Forest Service Chief F. Dale Robertson encouraged all Forest Service Regional Foresters, Research Station Directors, and Washington Office staff directors to support the roster applications of their employees and informed them of a "Women in Development" directory being developed by A.I.D.'s Bureau for Africa.
- Presentations made by FSP staff at several conferences, university seminars, and symposiums in-

cluded discussions of the FSP roster and encouraged qualified specialists to register with FSP.

During 1988, FSP developed a portable display and a color brochure highlighting the forestry development activities of A.I.D. and FSP. These promotional items are now used extensively to inform the public of A.I.D.'s natural resources programs and to recruit additional resource specialists for the FSP roster and Peace Corps natural resources programs.

FSP recently revised its roster registration packet to include additional technical skills anticipated by A.I.D.'s emerging priority programs and to combine skill categories that are used less frequently. Earlier in the year, a "Roster File Search and Maintenance Manual" was developed to guide FSP staff in conducting computerized searches and maintaining roster records.

A recent review of the skills and experience of FSP roster registrants provides a profile of the resource specialists available to assist A.I.D. projects. Of the 2,475 roster registrants, 85 percent are U.S. citizens or residents. Most are mid- or senior-level specialists (Figure 2-1), and nearly three-fourths have advanced degrees (Figure 2-2). Thirty percent of the registrants currently work with various U.S. Government agencies (primarily the Forest Service); approximately one-fourth are private consultants or work with private industry; another one-fourth are affiliated with universities; and about 20 percent work with other organizations, such as multilateral development banks, State governments, private voluntary organizations, conservation groups, and United Nations agencies (Figure 2-3). More than 90 percent of the registrants

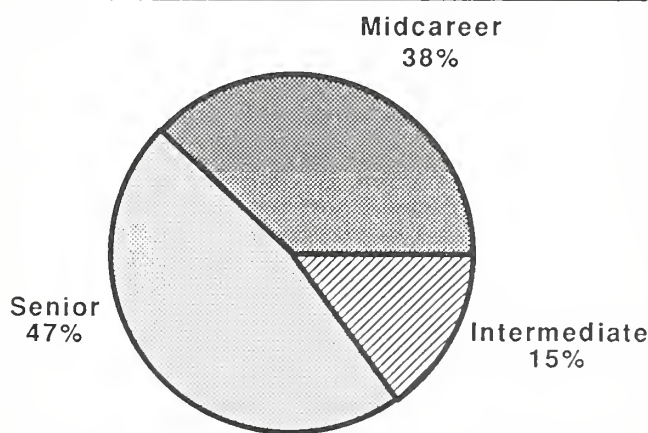


Figure 2-1: Experience levels of FSP roster registrants.

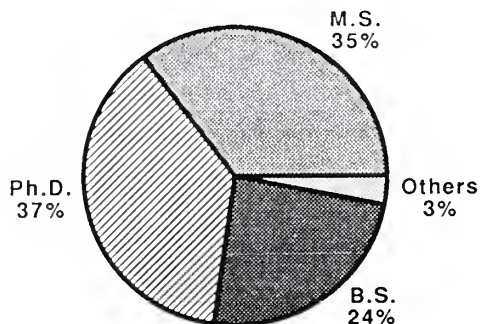


Figure 2-2: Education levels of FSP roster registrants.

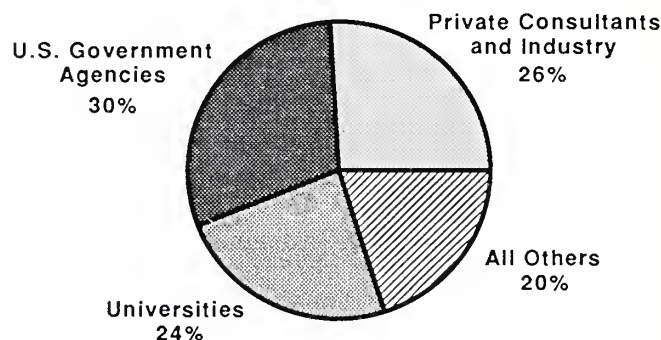


Figure 2-3: Present affiliations of FSP roster registrants.

possess non-English language skills, 66 percent have at least a basic command of Spanish, and more than 50 percent have a basic knowledge of French (Figure 2-4). More than 85 percent of the registrants have previous overseas development experience, primarily as consultants or with A.I.D., the Peace Corps, or universities (Figure 2-5). Nearly 50 percent of the registrants have worked in Latin America or the Caribbean; 37 percent, in Asia; and 31 percent, in Africa (Figure 2-6).

The roster contains the biodata of individuals with expertise in more than 70 specialized natural resource fields. Registrants are most experienced in the areas of general forestry, forest management, agroforestry, watershed management, land use planning, planta-

tion management, silviculture, natural resources management, and tropical ecology.

Referrals of Resource Specialists

The roster continues to serve as the primary mechanism for FSP to identify advisers and specialists to assist A.I.D. with the design, implementation, and evaluation of its natural resources development projects worldwide. The roster also is used extensively to identify potential candidates for positions with A.I.D. contractors and cooperating organizations, such as the Peace Corps, the Food and Agriculture Organization of the United Nations (FAO), the World Wildlife Fund, the World Bank, the Nitrogen Fixing Tree Association (NFTA), the International Institute for Environment and Development, CARE, the International Tropical Timber Organization, the International Union for the Conservation of Nature and Natural Resources (IUCN), and the Center for Tropical Agricultural Research and Training (CATIE).

FSP made nearly 150 roster searches in support of international forestry programs during 1988 (Appendix A). The most commonly requested skills included resource economics, land use planning, anthropology, sociology, agroforestry, watershed management, and arid-zone forest management.

In addition to direct referrals of advisers for A.I.D. projects, FSP alerted hundreds of roster registrants to job vacancies with cooperating organizations by mailing notices of 52 long-term international positions to



FSP's new portable display is used to inform the public of A.I.D.'s natural resources programs and to recruit resource specialists for the FSP roster. (Photo by T. Resch)

potential applicants with appropriate skills. This represents nearly a twofold increase over the number of notices mailed to registrants in 1987.

Interroster Cooperation

Over the years, FSP has benefited a great deal by sharing information on roster development with other agencies and organizations. Because of the positive results from these past cooperative exchanges, FSP collaborated with the USDA Forest Service Disaster Assistance Support Program (DASP) and the USDA Office of International Cooperation and Development (OICD) in organizing a workshop for managers of natural resources and disaster management rosters in July 1988. Forty individuals, representing 28 different

organizations—including government agencies, private voluntary organizations, professional societies, universities, consulting firms, and consortia—participated in the workshop.

Each participating organization presented a brief summary of its objectives for maintaining a roster, the skill areas in which it is most interested, its management practices, and its application procedures. This information was combined with data obtained from a questionnaire and summarized in the final workshop report. Specific roster management issues also were discussed during sessions on recruitment, computerization, maintenance, costs, and legal considerations.

A final workshop session provided a forum to discuss roster management issues and to explore opportunities for interroster cooperation. Workshop participants agreed on the need for a directory of

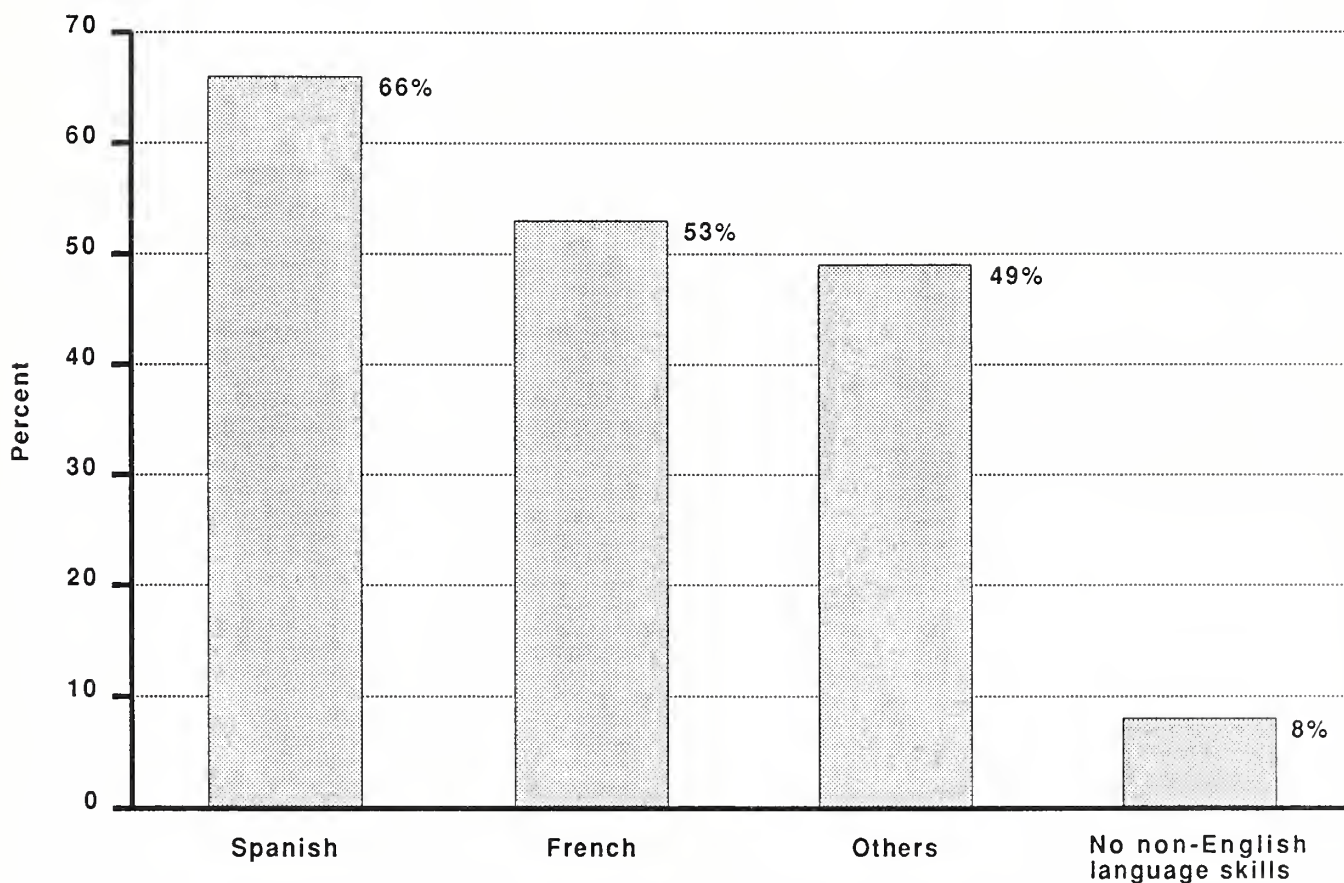


Figure 2-4: *Percentage of FSP roster registrants with foreign language skills.*

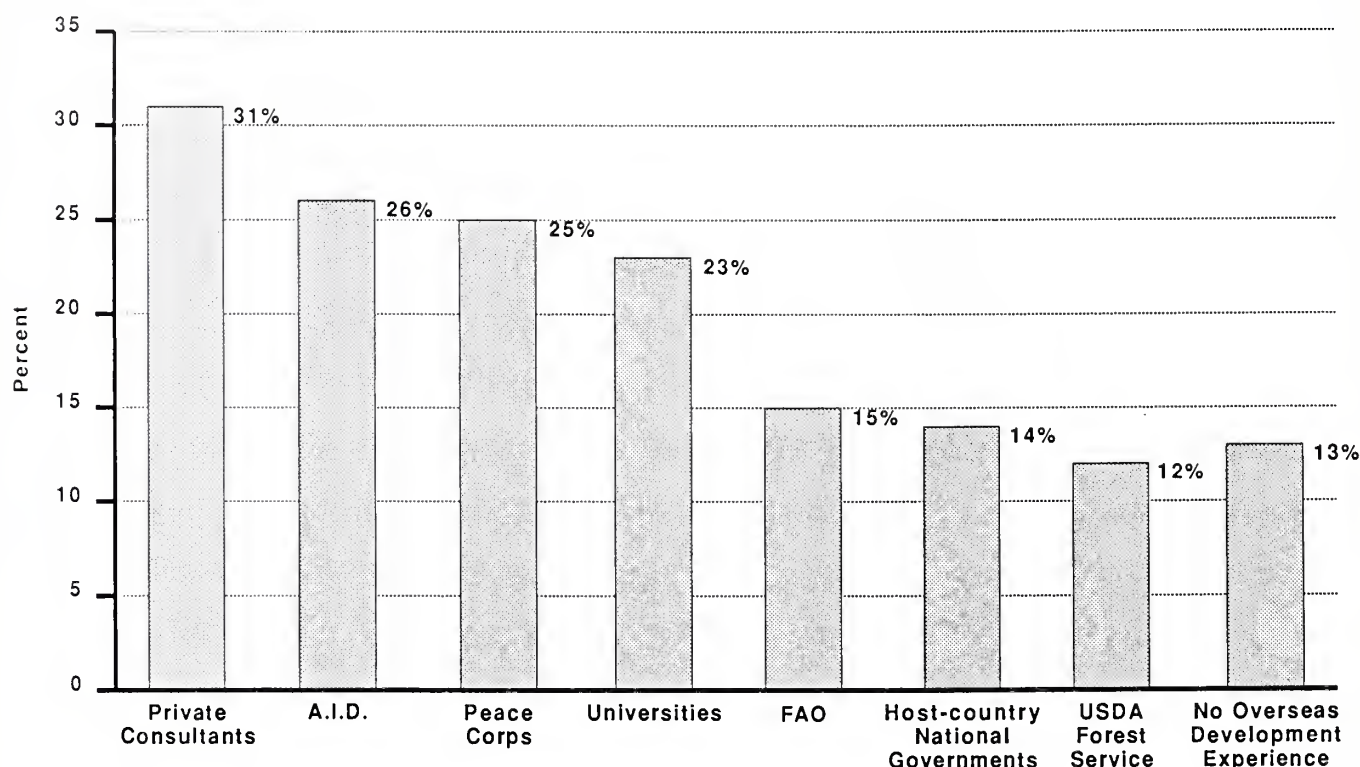


Figure 2-5: Percentage of FSP roster registrants with overseas experience working with leading development organizations.

rosters and for expanded communications among roster managers. Support also was expressed for producing a roster development manual to assist



A.I.D. missions frequently request land use planning specialists to evaluate the environmental soundness of proposed project interventions. (Photo by L. Lind)

groups and organizations that are establishing new skills rosters.

FSP continues to work closely with DASP to integrate disaster management specialists into the roster system. DASP calls on these specialists to assist the emergency response activities and training programs of the A.I.D. Office of U.S. Foreign Disaster Assistance (OFDA). More than 150 disaster or emergency management specialists are now registered.

In 1988, FSP cooperated closely with other organizations that manage natural resource rosters, especially OICD and the International Society of Tropical Foresters. Considerable assistance also was given to NFTA and FAO's North American Forestry Commission (NAFC), both of which are developing computerized roster data bases. NFTA has more than 1,400 associates, 70 percent of whom are located in developing countries. It is anticipated that the NFTA roster will complement FSP's roster well because the FSP roster is primarily composed of biographical data on U.S.-based specialists. NAFC is planning to adapt the FSP roster system for use in revising its *Directory of Tropical Silviculturists*.

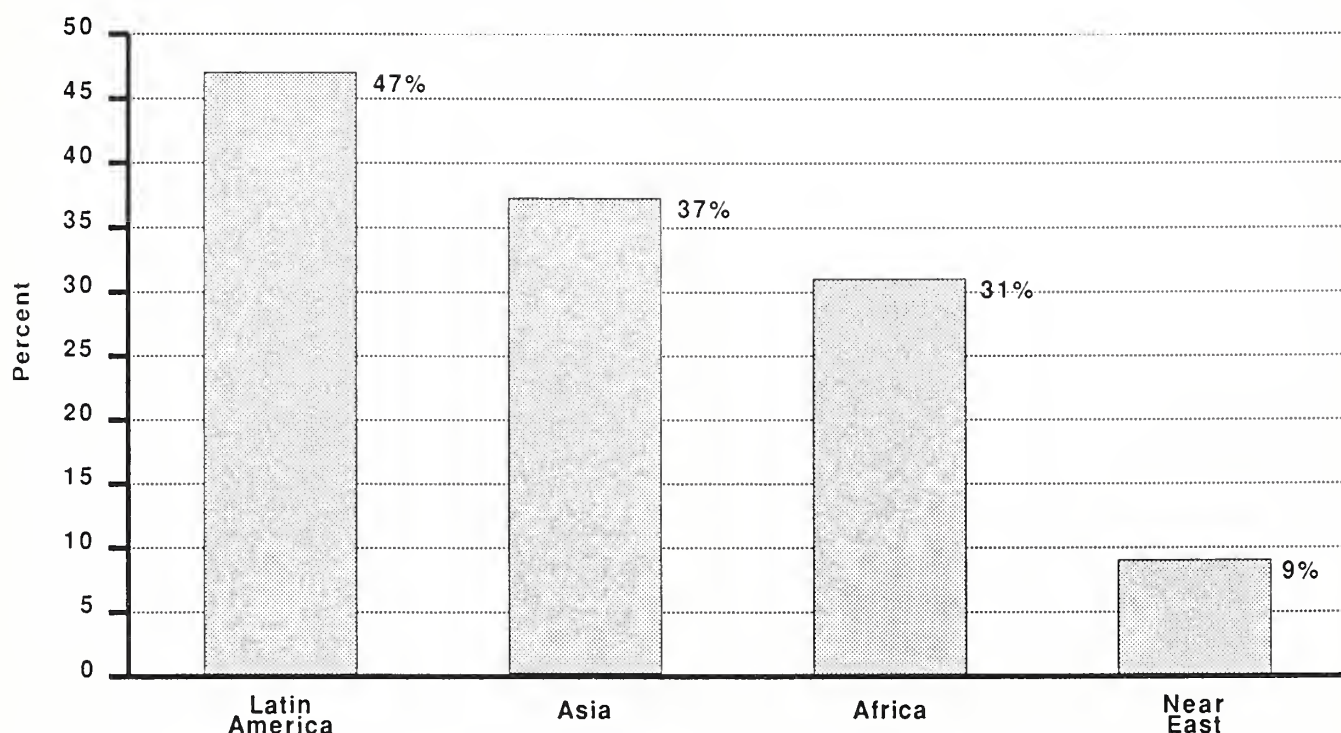


Figure 2-6: Percentage of FSP roster registrants with development experience in various regions of the world.

Outlook

FSP will initiate another update of registrants' biographical data early in 1989. Inactive files will continue to be purged from the system in an effort to streamline search operations and reduce maintenance costs.

Recruitment of new roster registrants will focus on specialists in A.I.D.'s identified natural resources priority areas, including biotechnology, biological diversity protection, tree seed technology, geographic information systems, underutilized forest products, and agroforestry. A short article describing the FSP

roster and recruiting additional anthropologists, sociologists, and other social scientists will be prepared for a forthcoming book, titled *Stalking a Job in the Nation's Capital*, being published by the Washington Association of Professional Anthropologists. The roster also will be readvertised in the *Commerce Business Daily* and selected professional journals.

FSP will continue assisting other organizations that are developing new natural resources rosters. FSP also will continue to exercise leadership in promoting cooperation with all organizations that currently maintain rosters of resource specialists.

Forestry Activities Supported by A.I.D.

In 1988, FSP contractors completed a major study of A.I.D.'s forestry development activities. The study continued FSP efforts to monitor A.I.D.'s forestry and natural resources activities and updated information on A.I.D.'s forestry projects contained in a data base developed in 1986. The current results, summarized below, provide an overview of A.I.D.'s global forestry project portfolio.

The study identified 162 A.I.D. projects with forestry activities that were active in 1987 (excluding food aid projects). Of these projects, 52 were active in Africa; 50, in Latin America and the Caribbean; and 41, in Asia and the Near East. Thirty-one of the projects focus exclusively on forestry activities, and 17 projects devote more than 40 percent of their funds to forestry. Life-of-project funding for the forestry activities of these 162 projects is estimated at \$604 million. The total life-of-project funding (including funding for both forestry and nonforestry activities) for the 162 projects is more than \$2.1 billion (Table 3-1).

A.I.D. spending on forestry development activities totaled more than \$60 million in 1988. During the past 5 years, A.I.D. obligations for forestry activities have ranged from \$43 million to \$73 million (excluding funding for food-aid-supported forestry activities).

Projects in Africa emphasize agroforestry, anti-desertification, reforestation, soil conservation, village orchards and woodlots, and windbreaks. In Asia,

major projects focus on farm forestry, watershed management, forestry planning, erosion control, reforestation, and forestry education. Projects in Latin America emphasize agroforestry, reforestation, and natural forest management.

The study also reviewed U.S. food-aid-supported forestry activities. Food aid is commonly used as an incentive to encourage participation in forestry development activities. In many projects, local currency obtained from the sale of donated food is used to finance such activities. In other projects, food is distributed directly to workers as a wage supplement or incentive to encourage tree planting or other forestry efforts.

The United States supports 109 food aid projects with forestry and natural resources components. Approximately two-thirds of these projects are administered by the World Food Program of the United Nations, using food donated by the United States. Twenty-six of the projects support forestry activities implemented by A.I.D. or private voluntary organizations, using food commodities valued at nearly \$18 million.

New A.I.D. Science and Technology Initiatives

During a staff retreat in mid-1988, officials with the A.I.D. Office of Forestry, Environment, and Natural Resources (FENR) identified several priority areas for study as possible new, or enhanced, FENR initiatives in natural resources development. FENR and FSP jointly selected six areas for special consideration: biological diversity, underutilized forest products, biotechnology, tree seed technology, geographic information systems, and agroforestry. Most of these are closely aligned with existing Forest Service capabilities. FSP agreed to explore opportunities for new A.I.D. initiatives in each of these areas, focusing on methods of applying domestic U.S. knowledge toward international development.

The assessment of opportunities in each of the six priority areas began in late 1988. For each topic, USDA experts will—

- Conduct a literature search to determine existing knowledge;
- Review the programs of other institutions and identify their constraints and future needs;
- Assess the feasibility, potential benefits, time requirements, and costs associated with possible

Table 3-1: *A.I.D. forestry projects active in FY 1987.*

Bureau	Number of projects	LOP funding for forestry	Total LOP funding
(millions of dollars)			
Africa	52	119	532
Asia and the Near East	41	275	773
Latin America and the Caribbean	50	139	613
Centrally funded	19	69	187
Total	162	604	2,105

Note: Funding columns may not add up to totals because of rounding.

Source: International Development and Energy Associates, Inc. 1988. Forestry Activities Supported by the U.S. Agency for International Development. USDA Forest Service, Washington, DC.



Reforestation of degraded lands is a major focus of A.I.D. projects in all regions of the world. (Photo by D. Messerschmidt)

A.I.D. Bureau for Science and Technology (S&T)/FENR initiatives, including potential realignment of FSP staff; and

- Produce a summary report identifying how A.I.D. might become involved (or expand its involvement) in training, research, extension, and development in the priority areas.

Technical Reference Services

During 1988, FSP continued to serve as a clearing-house for technical literature requested by A.I.D. missions, Peace Corps offices, and cooperating organizations. FSP maintains files of reports, conference proceedings, out-of-print technical publications, and bibliographies, focusing on those materials that are difficult or impossible to obtain from libraries or commercial sources. FSP also has access to several computerized bibliographies, including those of the USDA National Agricultural Library. These bibliographies help the staff identify relevant publications for requesting organizations.

FSP receives dozens of requests for information each month, ranging from very general questions on tropical deforestation and forest products trade to highly specific queries on individual tree species or technical aspects of forestry. For example, FSP provided information on *Moringa* spp. and *Tectona grandis* to A.I.D./Burma and the A.I.D. Regional Office for Central America Programs, respectively. Comprehensive searches were made for literature on

Eucalyptus camaldulensis and *Gmelina arborea* for A.I.D./Mali. The A.I.D. mission in Thailand was sent reports on producing pulp from eucalyptus. FSP supplied information to the National Geographic Society on lethal yellowing disease of palms.

FSP maintains distribution files of materials that address the most common information requests. For more complex requests, FSP staff gather information from FSP's species and technical files and various computer data bases. FSP cooperates with the USDA National Agricultural Library, the Forest Service's Institute of Tropical Forestry in Puerto Rico, and the Technical Information Division of the USDA Office of International Cooperation and Development (OICD) to locate and obtain literature not available in the FSP offices.



FSP has begun exploring opportunities for new A.I.D. initiatives in six priority areas, including tree seed technology. (Photo by U.T. Ongleo, International Rice Research Institute)

Related Communications

FSP regularly communicates information on new technologies and recent developments in forestry and natural resources to A.I.D. employees and cooperators in the field through the *FSP Quarterly Memo*. The 25- to 50-page memo includes information on A.I.D. and FSP activities, recent news from the forestry development community, position vacancy notices, new projects and activities, academic programs, short courses, meetings and conferences, new journals and newsletters, and recent publications. The memo is distributed to more than 500 forestry and natural resources development workers worldwide.

FSP reports on its current activities through the *FSP Periodic Report*, distributed monthly to 120 A.I.D. direct-hire employees, A.I.D. contractors, and associated organizations throughout the world. The 8- to 12-page report summarizes current FSP support

to A.I.D. bureaus and missions, general agency support, upcoming events and visitors, and new publications. In 1988, mailings of the report also included special enclosures describing the Smithsonian Institution's Tropical Rainforest Exhibition, a brochure highlighting the recent research accomplishments of the Forest Service's Institute of Tropical Forestry, a listing of the professional expertise of individual FSP staff members, instructions for accessing OICD's Technical Inquiries Group, a list of recent Forestry Private Enterprise Initiative working papers, brochures announcing several international conferences, and executive summaries of *Progress in Conserving Tropical Forests and Biological Diversity in Developing Countries* (A.I.D.'s report to Congress) and *Forestry Activities Supported by the U.S. Agency for International Development* (an FSP-funded report).

FSP guests presented 28 seminars during 1988 (see box on next page) as part of FSP's continuing effort to



FSP-sponsored seminars provide a forum for discussing timely resource management issues, such as the conservation of biological diversity. (Photo by P. Durst)

Speakers and Subjects at FSP-Sponsored Forestry Seminars

- **Cheah Leong Chiew**, Director of Planning and Evaluation of the Malaysian Forestry Research Institute, "Forestry in Malaysia," October 14, 1987
- **Ronnie De Camino**, Center for Tropical Agricultural Research and Training, "Overview of Forestry in Latin America and the Caribbean," October 23, 1987
- **Karl G. Van Orsdol**, Environmental Strategies International, "Buffer Zone Agroforestry in Tropical Forest Regions," October 28, 1987
- **Andrew Voros**, Consultant, "Overview of Forestry in Liberia," November 13, 1987
- **Frank Zadroga**, A.I.D. Regional Environmental Officer for Central America and Panama, "Overview of Central American Problems and Regional Environmental Profile," December 4, 1987
- **Jeff Fox**, Project Fellow with the East-West Center's Environment and Policy Institute, "Diagnostic Tools for Social Forestry," January 7, 1988
- **Katy Moran**, Legislative Assistant to Congressman John E. Porter, "The Politics of Tropical Forestry Conservation: A View from The Hill," January 27, 1988
- **Maria Teresa Ortiz**, Conservation International, "Conservation in the Context of Regional Development," January 28, 1988
- **Shoaib Sultan Khan**, General Manager of the Aga Khan Rural Support Program, "Successful Rural Development in the Mountains of Pakistan," February 2, 1988
- **Elbert L. Little**, Consultant to the Peace Corps, "Common Trees of Paraguay," February 24, 1988
- **Tim Resch**, FSP Program Coordinator for Food Aid and Voluntary Assistance, films: "Firewood: the Other Energy Crisis" and "Trees of Hope," March 3, 1988
- **Robert Repetto**, Senior Economist with the World Resources Institute, "Creating Economic Policy Incentives for Sustainable Forest Development," March 9, 1988
- **Denis Filer**, Computing and Data Management Specialist with the Oxford Forestry Institute, "Computerization of the UK Overseas Development Administration's Forest Genetics Research Projects in Central America," March 23, 1988
- **Daniel Janzen**, University of Pennsylvania and Adviser to Fundación Neotrópico in Costa Rica, "Ecological and Biocultural Restoration of Tropical Habitats: A Dry Forest Example," March 28, 1988
- **Anis A. Dani**, Social Scientist with the International Centre for Integrated Mountain Development (ICIMOD), "Mediating Structures in Incorporation and Development," April 7, 1988
- **James L. Chamberlain**, Development Associate for the Nitrogen Fixing Tree Association, "The Role of Nitrogen Fixing Trees on Small Farms," April 15, 1988
- **Patrick B. Durst**, FSP Special Projects Coordinator, and **George R. Armstrong**, Senior Forester with A.I.D.'s Bureau for Asia and the Near East, "Observations on Forestry in Thailand," April 25, 1988
- **Ralph F. Field**, Consultant, "PVO Affections and Agroforestry," April 27, 1988
- **Terry W. Gossard**, Chief Geometrics Engineer with the Forest Service, and **Ray Allison**, Forest Service Remote Sensing Coordinator, "Economic Analysis of Transportation Systems in Sudan," May 11, 1988
- **Jim Smyle**, University of Georgia, "Runoff Generation and Sediment Production from Reforested Watersheds in a Monsoonal Climate," May 19, 1988
- **Jim Corven**, Belize Cocoa Project, "Small Scale Cocoa Farming in Belize," May 23, 1988
- **Dennis Johnson**, FSP Agroforestry Coordinator, "Agroforestry: Developments and Prospects for a Developing World," May 26, 1988
- **Eldon Ross**, Forest Service Associate Deputy Chief for Research, and **James M. Sweeney**, Forest Service International Forestry Bilateral Coordinator, "Forestry Research in India," June 23, 1988
- **J. Kathy Parker**, Consultant and Team Leader, **Richard J. Calnan**, FSP Coordinator for Asia and the Near East, and **William Fleming**, Hydrologist with the State of New Mexico, "Nepal Resource Conservation and Utilization Project Final Evaluation Summary," July 13, 1988
- **Don Zeaser**, Consultant, "A Demonstration of a Computer Model for Determining Optimal Species for Regeneration: Focus on Adverse Conditions in the Andean Highlands," July 20, 1988
- **Shanta Pandey**, Case Western Reserve University, School of Applied Social Science, "Women's Involvement in Locally Managed Forests: A Case Study from Nepal," July 27, 1988
- **Chandni Joshi**, Chief of Women Development Section of the Nepal Ministry of Panchayat and Local Development, "Women in Development in Nepal, with Special Reference to Credit and Women in Natural Resources," August 17, 1988
- **Niwat Ruangpanit**, Associate Dean of the Faculty of Forestry, Kasetsart University (Thailand), "Community Forestry Development in Thailand," August 24, 1988

inform the Washington, D.C.-based forestry and development community of the progress of field projects and research initiatives. This is twice the number of seminars sponsored by FSP in 1987. The seminars are presented in an informal setting that fosters interaction between visiting field personnel and the Washington-area forestry community. Notices of the FSP-sponsored seminars are mailed to approximately 200 people in the Washington area, and 20 to 50 individuals usually attend.

Outlook

A.I.D. approached FSP and OICD late in 1988 concerning a new and possibly long-term effort to maintain information on A.I.D.-funded international forestry, environment, and natural resources development projects. FSP, OICD, and A.I.D. will continue to pursue this initiative in 1989. This will build on earlier work supported by FSP and will integrate and institutionalize the monitoring of all forestry, environment, biological diversity, and natural resources projects funded by A.I.D. The monitoring work will develop a "USAID FENR Portfolio Sector Information System," in close collaboration with other FENR projects—the Coastal Resources Management Project, the Environmental Planning and Management Project, the Conservation of Biological Diversity Project, and the Forestry/Fuelwood Research and Development

Project (F/FRED), as well as bureau and mission projects worldwide. Tasks are expected to include updating and expanding the forestry and forestry-related "Main Project Data Base" produced earlier by FSP and developing and maintaining "Ancillary Data Bases" on FENR projects related to Public Law 480, private voluntary organizations (PVOs) and non-governmental organizations, biological diversity, and tropical forestry. The ancillary data bases will provide A.I.D. with the specific information needed for its *Annual Report to Congress on Biological Diversity and Tropical Forests* and its reports to other bilateral donors and international organizations.

FSP also plans to work with the National Association of Professional Forestry Schools and Colleges in conducting a detailed survey of developing-country nationals studying forestry and natural resources in the United States. The survey will determine the number of developing-country training participants in the United States, their countries of origin, funding sources, areas of study, length of time in the United States, and other relevant information.

FSP will continue its technology transfer efforts in FY 1989 by widely distributing the *FSP Periodic Report* and the *FSP Quarterly Memo* and by sponsoring frequent forestry seminars in Washington, D.C. FSP will continue to identify and catalog technical reference materials, paying special attention to obtaining reports and documents not usually maintained by conventional forestry libraries.

Forestry Training Strategy

The FSP training strategy defines FSP's goals in assisting A.I.D. with training in forestry and related natural resources, highlights areas of training that would qualify for FSP support, and sets objectives for FSP to accomplish during the current fiscal year. FSP helps A.I.D. missions achieve their training objectives and advises institutions in the United States and developing countries on how to meet mission needs. FSP also supports the development of training activities and materials that advance A.I.D. regional and worldwide goals. A.I.D. bureaus review the strategy annually.

FSP informs missions of training opportunities through telegrams, telexes, mail, and the *FSP Quarterly Memo*. FSP helps develop and implement training plans, arranges training for mission-sponsored participants, and awards a limited number of fellowships to mission-nominated participants. The primary A.I.D. contacts for FSP are project officers who have responsibilities in natural resources management and training officers in the missions and bureaus. FSP assists training institutions by informing them of A.I.D. forestry and natural resources training needs, reviewing their plans and proposals for training A.I.D.-sponsored participants, and making consultative visits to campuses.

Communications with U.S. institutions encompass more than training-related issues. During 1988, the National Association of Professional Forestry Schools and Colleges (NAPFSC) and the Historically Black Colleges and Universities were sent announcements of jobs in international forestry and natural resources development. Individuals at these institutions were encouraged to enroll in the FSP roster of consultants. A mailing to NAPFSC members also encouraged the recruitment of Volunteers for Peace Corps forestry and natural resources programs as an entry point for internationally oriented careers.

The FSP Training and Education Coordinator serves on the Training Committee of the International Science and Education Council, which coordinates training activities among A.I.D., the United Nations Food and Agriculture Organization, the Office of International Cooperation and Development, and universities. In 1988, the committee held two planning meetings and a workshop for universities in the western United States on the relevancy of education for international students.

The first steps toward developing a formal linkage with forestry technician schools (similar to the linkage

already established with the accredited professional forestry schools) were taken by FSP in 1988 by cosponsoring the International Conference on Educating Forest Technicians into the 21st Century (described below).

Financial Support for Developing-Country Training Participants

FSP awarded 14 fellowships for short-term training in FY 1988 (see box on next page). This was two-thirds of the number awarded in FY 1987. Other funding organizations increasingly recognize the value of supporting short-term training in forestry.

International Conference on Educating Forest Technicians

The International Conference on Educating Forest Technicians into the 21st Century was held at Paul Smith's College, New York, August 15–22, 1988. FSP awarded a grant to Paul Smith's College to organize the conference, and the college was assisted by the FSP Training and Education Coordinator. FSP provided French translation and the Forest Service funded the participation of a former Peace Corps Volunteer who had worked in Niger to assist two Nigerien participants. Forty-nine individuals, representing 19 countries, registered for the conference, including participants from Nepal, the Philippines, Liberia, Costa Rica, Paraguay, Niger, Uganda, Sri Lanka, Papua New Guinea, Nigeria, and Pakistan.



FSP encourages practical field-oriented training for forestry technicians. (Photo by L. Duwall)

Training Fellowships Granted by FSP in FY 1988

Fourth International Seminar on Forest Administration and Management, October 1987

Abu el Gasim Suleiman, Conservator of Forests for Western Sudan, Sudan
Leo Nturu, Forest Community Development Officer, Uganda
Timothy Godoy,¹ Divisional Forest Officer, Belize

Agroforestry Course for Pacific and Caribbean Island Foresters, May–June 1988

Manley D. James, Forester, Dominica
Henry N. Mills, Forester, St. Kitts and Nevis

International Conference on Educating Forest Technicians into the 21st Century, August 1988

Theresa Aloo, Egerton University, Kenya
Ruben Guevera Moncada, Escuela Nacional de Ciencias Forestales (ESNACIFOR), Honduras
Kla Songsakul, Phrae Forestry School, Thailand
P. N. Suwal, Ministry of Forests and Soil Conservation, Nepal
Hassan Osman Abdel Nour, College of Agricultural Studies, Khartoum Polytechnic, Sudan
Ibrahim Oumarou,² Institute of Practical Training for Rural Development, Niger
Attari Boukari² Institute of Practical Training for Rural Development, Niger

Fifth International Seminar on Forest Administration and Management, September 1988

Phenias Biroli,² Director of Forests, Rwanda
Edgar Ortiz M.,¹ Director of the Forest Department, Instituto Tecnológico, Costa Rica

¹Funded jointly by FSP and Partners of the Americas.

²Supported with FSP funds from A.I.D.'s Bureau for Africa.

Training Materials and Courses

FSP provided a grant to CARE International in 1988 for artist services and editing to complete the *Agroforestry Extension Training Sourcebook*, written by CARE and consisting of two parts. The first part is a workbook focusing on the planning of agroforestry extension training. The workbook has ten modules: "Beginning Agroforestry Extension Training," "Introduction to Agroforestry," "Project Approach to Agroforestry Extension," "Agroforestry Extension and Communication," "Land Use Diagnosis for Agroforestry," "Agroforestry Design," "Planning, Monitoring, and Evaluating Agroforestry Extension Activities," "Seed Supply," "Nursery Management," and "Tree Planting, Protection, and Management." The second part of the sourcebook is an anthology of agroforestry literature.

FSP staff members assisted Save the Children Federation in editing and distributing *Planning for Agroforestry: With Special Reference to Low Rainfall*

Areas. The publication is an easy-to-use handbook designed to guide development workers in planning agroforestry projects in collaboration with local communities.

In an effort to advance A.I.D.'s forestry and natural resources education objectives, FSP cooperated with a U.S. university extension forester to investigate opportunities for FSP to become involved in public education in natural resources conservation and management. The consultant identified a clear need for such education in developing countries and designed prototype training materials that FSP might use to further natural resources education.

FSP supported three major training courses in Latin America and the Caribbean in 1988. All three focused on agroforestry, and they are described in Chapter 7.

Outlook

The following objectives have been established for helping A.I.D. forestry training programs in FY 1989:

1. Improve the efficiency of FSP's information and communications systems and expand the network receiving FSP information by—
 - Including the U.S. forest technician schools as regular recipients of FSP information and consultative services;
 - Identifying and communicating useful information on international forestry development to the Historically Black Colleges and Universities;
 - Developing and maintaining a directory of A.I.D.-supported, long-term training participants in the United States and establishing a communications network for such participants; and
 - Developing and maintaining a network of A.I.D.-related training officers, training contractors, universities, and others active in environment and natural resources training.
2. Improve implementation of FSP training support in Asia and the Near East by increasing communications and contacts and by identifying training opportunities offered by nongovernmental organizations and other government agencies.
3. Support training in agroforestry by—
 - Providing followup assistance to users of FSP's agroforestry textbook *Sistemas Agroforestales*, promoting use of the book, and encouraging its revision and translation into English;
 - Assisting CARE with the publication and distribution of its *Agroforestry Extension Training Sourcebook* and organizing "training-of-trainer" workshops using the sourcebook; and
 - Supporting other agroforestry training and education activities, including the International Workshop on Professional Education and Training in Agroforestry at the University of Florida, December 5–8, 1988.
4. Conduct a regional tree seed technology short course for forestry technicians at the Kenya Forestry Research Institute, December 5–16, 1988, and pursue efforts to cosponsor a similar course in southern Africa.
5. Participate in the natural resources training needs assessment for Ghana and for other A.I.D. missions as requested.
6. Continue developing an appropriate intervention for FSP in the field of public awareness and education of children in natural resources management.
7. Provide support to at least one new training course that supports tropical forest management, biological diversity, or education of forestry technicians.
8. Continue cooperating with the International Committee of NAPFSC to produce an expanded edition of *Profiles of U.S.A. Forestry Schools* and to study the U.S. contribution to the training of

Recommendations of the International Conference on Educating Forest Technicians into the 21st Century

1. Continue and expand efforts to hold regional and global forest technician education conferences.
2. Establish regional and global information exchange networks for forestry technician schools.
3. Upgrade the teaching skills of faculty at forest technician schools, especially in the fields of agroforestry and community forestry.
4. Continue to study constraints on the integration of women and minorities into the field of forestry and develop strategies and policies to overcome these constraints.
5. Develop better information on the participation of women in forestry and on the activities and needs of women forest resource users as part of a general strategy to broaden social participation in forestry.
6. Discuss conference conclusions and implement conference recommendations at each of the participating institutions.
7. Seek funding to publish and circulate the conference proceedings to the widest possible audience, including but not limited to professional and technical natural resource schools, libraries, and donor organizations.

Complete proceedings of the conference will be published in 1989.

developing-country nationals in forestry and related natural resources.

9. Provide technical support to the International Seminar on Forest Administration and Management and arrange for its publicity through A.I.D.
10. Review proposals submitted to A.I.D. for forestry training in the United States and abroad.
11. Support training courses related to tropical forest management and biological diversity by publicizing them in the *FSP Periodic Report*, the *FSP Quarterly Memo*, cables, and special mailings and by providing limited financial assistance in cooperation with A.I.D. missions and other donors.



To advance A.I.D.'s education objectives, FSP began investigating environmental education strategies and natural resources oriented youth programs. (Photo by Academy for Educational Development)



Participants at the FSP-sponsored International Conference on Educating Forest Technicians initiated efforts to establish regional and global information networks for forestry technician schools. (Photo by D. Vinapol, Paul Smith's College)

Overview

Sound analysis and research must accompany forestry development efforts if projects are to adequately address the difficult social and technical issues associated with multiple-use forest management, integration of forestry and agriculture, national and local income generation, long-range forest conservation and protection, watershed management, efficient wood utilization, and forest regeneration. A.I.D. has long recognized the integral role of research in supporting its forestry development agenda. FSP continued to support A.I.D.'s forestry research efforts in 1988 by reviewing research projects and proposals, identifying investigators to cooperate with A.I.D. research, funding specific studies, advertising and promoting research workshops and related training opportunities, reviewing research reports, and disseminating research results.

Most of FSP's applied research activities in 1988 were carried out by the Forestry Private Enterprise Initiative (FPEI) in Ecuador, Costa Rica, and North Carolina. This research is described in Chapter 6. The FSP Social Forestry Coordinator also supports the research activities of A.I.D.'s Forestry/Fuelwood Research and Development (F/FRED) Project. This support is described separately in Chapter 9.

Recent forestry and natural resource research findings were communicated to A.I.D. field personnel in 1988 in the *FSP Periodic Report* and the *FSP Quarterly Memo*. Each issue contained summaries and citations of dozens of recent research publications and reports. FSP also regularly disseminated lists of the FPEI working papers that highlight the research of FPEI scientists.

Spanish Adaptation of QUICKSILVER

In mid-1988, FSP entered into a cooperative agreement with Michigan State University and the Institute of International Agriculture to adapt QUICKSILVER (a leading U.S. forestry investment analysis computer program) for use in Latin America. Initially developed by Forest Service scientists, QUICKSILVER is commonly used by U.S. analysts for evaluating forestry investment alternatives.

Software and documentation are being translated into Spanish, and the computer programs are being adapted to accommodate products, management practices, and units of measure common in Latin America. The converted software is expected to prove

extremely useful to Latin American analysts, researchers, and forest management practitioners. The Spanish adaptation of QUICKSILVER is scheduled to be completed and available for distribution in early 1989.

Review of Research Proposals and Results

FSP staff members evaluated a number of research proposals, advised research projects, and reviewed the results of several forestry studies sponsored by A.I.D. and A.I.D. cooperators in 1988, including the following:

- FSP staff members reviewed research proposals submitted to A.I.D.'s Office of the Science Adviser.



Field trials of promising multipurpose tree species are supported in nearly a dozen Asian countries by A.I.D.'s F/FRED project. (Photo by M.B. Yazman, F/FRED)

- FSP's Agroforestry Coordinator advised a researcher working with the A.I.D. Bureau for Program and Policy Coordination (PPC) on a study of policies related to sustainable agriculture.
- FSP's Special Projects Coordinator reviewed a proposal requesting funding from the A.I.D. Bureau for Science and Technology (S&T) for a study of small industries in India that process neem (*Azadirachta indica*) and related species for pesticides, oil, soap, animal feeds, and fertilizer.
- The FSP Social Forestry Coordinator helped the F/FRED Project review small grant proposals for multipurpose tree species research in Asia.
- The FSP Agroforestry Coordinator evaluated a proposal for studying the intercropping of palmyra palms and fuelwood species in India for the National Academy of Sciences' Board on Science and Technology for International Development (BOSTID) Tropical Trees Program.
- FSP's Special Projects Coordinator reviewed a research proposal for a study of nature tourism in Mali for the A.I.D. Bureau for Africa.
- FSP staff members reviewed numerous manuscripts for the *Journal of Forestry*, *National Geographic*, and other publications, reporting the results of research on agroforestry, forest utilization in Nepal, tropical forestry education, taungya plantations in Puerto Rico, community and social forestry in developing countries, conservation practices in northern Brazil, deforestation in the Himalayas, and other topics.

Completion of Graduate Research Studies

In 1985, FSP provided funding to five U.S. graduate students to support forestry research in developing countries. Two studies were completed in 1986. The three remaining studies were completed in 1988.

Nora N. Devoe of Yale University successfully established a study on the effect of light exposure level on the recruitment and growth of five tropical tree species at the Barro Colorado Nature Monument in Panama. This forest management experiment included six treatments, five species, 20 plots, and 3,000 planted seedlings. Baseline inventories were made as a prelude to later measurements, which will be made with funding provided by another donor. The study devised and documented nursery production methods for important commercial timber species in Panama.



FSP reviews proposals for A.I.D.-supported forestry research, advises on research design and procedures, and evaluates results. (Photo by K. Hunter)

James W. Smyle of the University of Georgia studied the production of suspended sediment from small catchments in the midelevation wet zone of Sri Lanka. Measurement of streamflow and sediment from these catchments yielded an estimate of the ranges and magnitudes of suspended sediment production that may be expected from small catchments. The results of Smyle's study were used for his M.S. thesis at the University of Georgia.

Robert R. Davis of the University of Tennessee completed his study on the effects of changing land use on erosion in the Paute watershed in Ecuador. The results indicated a historical trend toward more intensive land use. Cropland increased by more than 40 percent during the past 20 years. Agricultural activities were identified as the principal cause of accelerated soil erosion and watershed deterioration. However, findings indicated that a general focus on soil conservation on cropland would not be

appropriate for all subwatersheds in the Paute drainage. Many subwatersheds have different factors contributing to their degradation, including commercial exploitation of timber and expansion of pastures. Factors influencing land deterioration should be assessed on a subwatershed basis to permit the development of effective management strategies for the individual components of large drainage areas.

In addition to the major funding of the studies described above, FSP also had earlier provided partial support to Carlos E. Gonzalez of the Dominican Republic for his M.S. thesis research at the University of New Hampshire. Gonzalez developed an economic model for analyzing forest energy plantations in the Dominican Republic. The study, completed and presented to FSP in 1988, evaluated the profitability of seven species suitable to the ecological conditions of the dry forest areas in the Dominican Republic.

Outlook

FSP expects to help guide A.I.D.'s forestry and natural resources research activities in the future by reviewing research proposals, advising on design and methods, and evaluating research progress and results. As it has in the past, FSP also will refer leading researchers from the FSP roster to consult on and direct the research initiatives of A.I.D. missions and bureaus and cooperating organizations.

Most of FSP's applied research activities will continue to be implemented by FPEI. The FSP Social Forestry Coordinator also will continue a high level of support for the F/FRED Project's research agenda.

Chapter 6

Forestry Private Enterprise

The Forestry Private Enterprise Initiative (FPEI) spearheads FSP's efforts to increase income and employment from forests in developing countries by mobilizing the funds and talents of public and private partners. FPEI uses an integrated approach that includes applied research and policy analysis, domestic and export market development, training, and technical assistance.

The Southeastern Center for Forest Economics Research (SCFER) implements FPEI with funds provided by the A.I.D. Office of Forestry, Environment, and Natural Resources (FENR), through agreements with the USDA Office of International Cooperation and Development (OICD) and the Forest Service. The principal SCFER institutions managing FPEI are North Carolina State University, Duke University, and the Forest Service's Southeastern Forest Experiment Station. FPEI works very closely with local private- and public-sector institutions and A.I.D. missions in the countries where it operates.

1988 was an active and productive year for FPEI. Significant progress and results were achieved by both the market development demonstration component (based in Ecuador) and the research component (based in North Carolina). The SCFER team also spent considerable effort in preparing for the anticipated expansion of FPEI to Central America in early 1989.

Ecuador Market Development Demonstration

The FPEI market development demonstration component (known by its Spanish abbreviation, INFORDE, in Latin America) has been active in Ecuador since 1985. INFORDE works to generate sustained income and employment opportunities in the forestry sector, using the following three broad strategies:

1. Increase the value of wood-based products, nature tourism, and other goods and services that can be sold from forests;
2. Increase the earnings generated by private forest-based activities through improved technologies and training; and
3. Encourage direct private investment in the forestry sector.

A number of specific activities in institutional strengthening, education and training, domestic

market development, and export development support these broad goals. The focus in Ecuador in 1988 was on completing or consolidating ongoing activities in preparing for the relocation of the Market Demonstration Specialist to Central America in early 1989.

Institutional Development

During 1988, FPEI completed the creation of the Center for Technical Support to Wood Products and Furniture Industries of Ecuador (CORMADERA), a nonprofit corporation for the development of Ecuador's forestry and wood products sector. CORMADERA received initial seed funding from A.I.D./Quito because of its important potential to improve the operations, product quality, and resource use of several thousand small rural wood products enterprises.



FPEI encourages efficient alternatives to such traditional wood utilization practices as pit sawing of lumber. (Photo by D. Johnson)

CORMADERA's board of directors represents several private producer and artisan associations of different sizes and types. It also includes representatives of the public sector.

So far, CORMADERA has not obtained a long-term lease (*comodato*) for the cooperative use of the Conocoto Wood Products Laboratory facilities owned by the Ecuadorian Ministry of Agriculture. Alternative cooperative agreements with the Universidad Católica are now being pursued, and other donor countries are showing interest in supporting this initiative.

Education and Training

FPEI sponsored a number of workshops, seminars, conferences, and field demonstration trips in 1988. Many of these have broken new ground in terms of attendance levels, selection of subject matter, and alliances of public and private interests. Several of INFORDE's accomplishments have been covered on Ecuadorian television and in the leading Quito newspapers, serving to further inform and educate the public about forestry issues.

More than 300 people attended the 3-day Jornadas Forestales in Quito in June 1988. Twenty-seven technical sessions were presented, and participants exchanged ideas on forest policies and planning, silviculture, and forest industries. The event was coordinated by the Wood Products Manufacturers' Association of Ecuador (AIMA), with technical and financial support from INFORDE and the Hans Seidel Foundation.

In mid-1988, over 150 individuals attended field tours, workshops, and seminars related to INFORDE's bamboo management and propagation demonstration. INFORDE also assisted AIMA in organizing workshops on strategies for developing new export products.

In June 1988, INFORDE initiated a small grant program that will finance masters-level research by 10 Loja University students in agroforestry and wood utilization. The grant also provides funds for developing the University's Wood Preservation Laboratory.

During the second half of 1988, the Market Development Specialist spent considerable time preparing for the transition of the project to Central America. In September, eight representatives from A.I.D./Guatemala, the Government of Guatemala, and the Guatemalan forestry private sector visited Ecuador to observe INFORDE operations and discuss the transition.



INFORDE sponsored field tours, workshops, and seminars on bamboo propagation and management. (Photo by P. Durst)

Market Development Activities

INFORDE continued to work closely with AIMA in 1988 to expand and strengthen domestic and export markets for wood products. Activities focused on product quality improvement, expansion of market contacts, and increasing awareness of the potential uses of wood.

With assistance from INFORDE, CORMADERA has continued efforts to improve the quality of manufactured furniture. In cooperation with the Institute for Socioeconomic and Technological Research (INSOTEC), INFORDE began creating an organization for bulk purchase of supplies and services for wood products industries. INFORDE continued to assist traditional furniture producers by facilitating market contacts, advising on product lines, and providing price information.

The building entrepreneur who managed INFORDE's wood construction prototype demonstration in 1987 continued promoting wood construction in 1988. He built several middle- and high-income private homes and a rural hospital in 1988, using pressure-treated soft hardwoods that are currently underutilized in Ecuador. Efforts are slowly progressing to industrialize structural lumber and housing-component production, with the goal of making wood structures affordable for lower income families. INFORDE partially funded a short familiarization tour to Chile for Ecuadorian building industry officials who are studying wood construction practices. INFORDE also began developing computer software for estimating the costs of wood used in construction.

Bamboo is a forest product with considerable general use in Ecuador, including low-cost housing construction. INFORDE, working with a small private Ecuadorian firm, successfully demonstrated management and propagation techniques to potential growers of bamboo.

To assist the sawmill industry, lumber market studies were conducted for Quito, Cuenca, and Guayaquil. A consultant diagnosed sawmill problems in Ecuador and conducted workshops on saw-doctoring techniques. CORMADERA is helping mill operators obtain needed saw maintenance tools.

INFORDE cooperated with CORMADERA in preparing proposals for developing a quality control and certification program for export and construction products; a program for grading structural lumber cut from underutilized species; and a demonstration sawmill for well-graded, dried lumber. The possibilities for external funding of these initiatives are encouraging.

Private Enterprise Research

FPEI applied research in 1988 concentrated on policy analysis related to small-scale enterprises in the forest-based sector. Significant gains were made in 1988 toward integrating the FPEI research component with the market demonstration component. The project investigated topics in four subject areas: (1) agroforestry economics in coastal Ecuador, (2) international comparative advantage in wood products, (3) efficiency and employment in Ecuador's wood industries, and (4) supply of and demand for nature tourism.

Economics of Agroforestry in Coastal Ecuador

The coastal region of Ecuador is an important producer of cacao and coffee. Increasingly, farms and ranches in the region also provide industrial wood for



FPEI works to improve the quality of wood products for both domestic and export markets. (Photo by P. Durst)



INFORDE diagnosed sawmill problems in Ecuador and conducted workshops on saw maintenance. (Photo by K. Hunter)

sawmills and other wood-processing plants. Most of this wood comes from shade trees and pasture trees.

Because little is known of the wood supply from farm sources in coastal Ecuador, FPEI conducted a survey of 122 farmers in the subregions of Ventanas, La Troncal, and Babahoyo. The survey indicated an abundance of land for growing farm trees and excellent regeneration of many species on the majority of farms. However, current stocking of farm trees seems well below potential, and fewer than half of the interviewed owners deliberately manage farm trees for eventual sale as timber. Only 2.2 percent of gross farm revenue derives from tree sales, even though over half of surveyed farmers have sold trees to industrial buyers at least once.

Constraints on production and sales of farm trees for timber include risks of damage to coffee and cacao, perceived incompatibilities with current farming practices, inadequate methods of classification and pricing of farm trees, and insufficient knowledge of the industrial uses of farm trees by agricultural extensionists. These limitations must be addressed through a strategy of research, development, and information diffusion on selected demonstration farms.

Comparative Analysis of Forest Production Costs

The emergence of major new suppliers of forest products around the world has increased concerns of forest products industries with respect to international competitiveness. With increased trade comes an increased need to capture the best forest management opportunities in each region.

In 1988, FPEI began conducting studies to compare forest production costs in Ecuador with those in the United States and to develop a general framework for investigating comparative advantages in forest production worldwide. The studies examined public policies and economic and natural resources factors influencing forest production. Data for particleboard production in Ecuador were examined in detail, and a system for rating competitiveness factors in a multi-country context was developed. It is anticipated that this rating system will be useful for analyzing the competitive position of many different countries for various forest products.

Employment and Efficiency in the Forest Products Industries of Ecuador

Field surveys of 550 forest industry establishments in Ecuador were completed in November and



FPEI surveyed the tree-growing and marketing practices of small farmers in coastal Ecuador. (Photo by P. Durst)



FPEI analyzed the small, but increasingly important nature tourism industry in Latin America. (Photo by T. Resch)

December 1987 to assess raw material requirements, sales, purchases, employment, fixed investments, and training needs. The data are being analyzed to (1) estimate national employment in the forest industry by product line and scale of enterprise, (2) determine whether employment conflicts with resource efficiency (use of capital and raw materials) in various sizes of enterprises, (3) assess factors limiting small-scale enterprises and (4) draw conclusions for donor assistance. Results of the study will be published in early 1989.

Nature Tourism and Small Enterprises

Prior research efforts by FPEI have demonstrated that nature tourism is growing rapidly, and market prospects seem good for further expansion. This presents interesting opportunities for economic development, because nature tourism can generate

foreign exchange, stimulate rural employment, and—if properly managed—enhance conservation and the protection of biological diversity. The 1988 FPEI research of nature tourism assessed the magnitude and character of these impacts. Tropical forest tourism was investigated in Costa Rica, Guatemala, Ecuador, and Dominica.

Of the many establishments encountered in the four countries, nearly all could be described as locally owned, small, or microenterprises. However, many of the owners of hotels and other enterprises were not initially residents of the regions where they now operate. Enterprises often are scattered rather than being concentrated in a single destination community. The small size and dispersed nature of forest-based tourism enterprises present difficult challenges for promoters of the industry. These same characteristics tend to allow governments to overlook nature tourism enterprises when establishing credit programs and tax incentives. In each of the countries studied, there seem

to be numerous opportunities for nonprofit and for-profit entities to manage private nature reserves, operate facilities and provide services within publicly owned parks, and organize tours to natural areas.

A related FPEI nature tourism study analyzed the international travel sponsored by conservation organizations and professional scientific societies. The survey found that U.S. conservation groups constitute a small and relatively immature market for international travel. Travel in this market segment is expensive, with costs per day rarely below \$100. The emphasis of these trips on education and professionalism—rather than on broad membership participation—helps explain the relatively low numbers of travelers and the high costs associated with travel sponsored by these groups.

FPEI Working Papers

The FPEI working paper series has become an important outlet of information for the project. Thirty-eight papers and reports summarizing the results of FPEI studies have been published, including eight papers produced in 1988. Several others are in preparation and will be released in 1989. FSP widely publicizes the papers through the *FSP Quarterly Memo* and the *FSP Periodic Report*.

By mid-1988, more than 1,200 copies of FPEI working papers had been distributed to individuals in 33 countries. About 40 percent of the publications went to people outside the United States, primarily to individuals in Latin America.

Project Administration

During 1988, the part-time FPEI Project Administrator coordinated the information needs of the project's various field components and project-related organizations in Washington, D.C. The Administrator prepared work plans, budgets, and reports, which improved the information flow among individuals working with the project and facilitated efficient FPEI operation. The Administrator increased his work time commitment to FPEI by 20 percent (from 40 to 60 percent) in 1988, permitting intensified efforts to broaden the project and secure additional sources of funding.

A large proportion of the last half of FY 1988 was spent facilitating the transition of the market demonstration project component from Ecuador to Central America, scheduled for early FY 1989. In con-

junction with the Market Demonstration Specialist, the Administrator made two trips to Costa Rica and Guatemala and four trips to Washington, D.C., to coordinate the transition.

Another administrative activity focused on inventorying the capabilities of SCFER personnel, areas of technical interest, and availability. Twenty-four faculty members, representing five universities in addition to the three core SCFER institutions, are available in the talent pool.

Finally, near the end of FY 1988, work began on a 16-page color booklet highlighting the FPEI/INFORDE activities in Ecuador over the past 5-year period. This publication will expose the international development community to the successes of the FPEI project and will encourage further application of forestry private enterprise approaches in other countries. Publication is expected in early 1989.

Outlook

FY 1989 will be an important transition year for FPEI, especially in terms of the market development demonstration. The transition of FPEI is expected to include at least a partial restructuring of this successful component which will enable buy-ins by funding sources not possible under present administrative arrangements. Direct FPEI participation in market development will be scaled down in Ecuador and refocused in Central America. Although much important activity is anticipated in 1989, S&T/FENR has advised FSP that funding of FPEI through the existing FSP mechanism will likely diminish in 1990.

Several policy seminars and technical sessions summarizing the lessons and experience of INFORDE will be sponsored prior to the early 1989 departure from Ecuador of the Market Demonstration Specialist. A final FPEI/INFORDE summary meeting will be held in Quito in December 1988. FPEI will continue to provide advice and assistance to CORMADERA and AIMA, but at a diminished level after early 1989.

FPEI objectives for FY 1989 cover a broader range of subject areas and geography than in the past, reflecting the flexibility that will be needed to successfully relocate the market development demonstration activities in Central America. FPEI expects to establish an office in Guatemala in early 1989 and to develop strategies for expanding operations to other countries in the region by FY 1991. Efforts will continue to obtain long-term funding from sources other than A.I.D. to support program activities in Central America.

INFORDE's anticipated transfer to Guatemala provides an opportunity to combine some of the approaches tested under FPEI with those developed by the Market and Technology Access Project (MTAP). Working with MTAP and other A.I.D. projects in Guatemala and Central America will enable INFORDE to develop stronger ties to broader A.I.D. private enterprise program initiatives; this also will place the project in a better position to influence business development in the forest products subsector.

Four major study topics dominate the FPEI research agenda for FY 1989: (1) multipliers for nature tourism, (2) fees and pricing for nature-oriented tourism, (3) timber-pricing policies and practices in Latin America, and (4) forest products and comparative advantage. Previous FPEI work on nature tourism defined issues and problems. In FY 1989, FPEI will continue the effort, making the investigation specific to the issues of jobs and incomes. The FPEI Principal Investigator will be working as a Fulbright Fellow in Costa Rica during the second half of FY 1989 and early FY 1990, undertaking a case study of nature tourism expenditures. Income and employment multipliers will be constructed by determining direct expenditures from visitor surveys and by estimating secondary expenditures from surveys and commercial censuses. A second FPEI study topic will focus on the

pricing of admission to parks and reserves and the degree to which such fees can support the management and protection of natural areas in Latin America.

Timber purchased from government lands often is subject to various kinds of price distortions, creating resource inefficiencies. The third area of FPEI research in FY 1989 will compare reasonable economic returns with actual economic returns for one or more forestry enterprises in FPEI's client countries. Imputed stumpage returns will be estimated from market prices, processing costs, and extraction and transport costs. These imputed returns then will be compared with actual net revenues received by forestry enterprises. The difference will provide a view of distortions between markets and policies and will furnish a basis for policy alternatives leading to greater economic efficiency.

Global competitiveness in timber production and trade will continue to be an important issue for the near term and constitutes the fourth topic on the FPEI research agenda. In FY 1989, FPEI will expand on its previous work in this area by developing a methodology and an empirical base to compare production costs of forest products across two or more countries. The results will be used for analyzing the policies of forest industries and governments in A.I.D.-supported countries.

The second full year of the forestry-agriculture initiative was characterized by an overall expansion of technical support and training activities, as well as increased participation in workshops and conferences. Although the major focus of the initiative continued to be oriented toward overseas field activities, a surge of interest in agroforestry within the United States offered opportunities to develop stronger links between foreign and domestic projects and programs.

Mission and Bureau Support

FSP provided direct technical support to A.I.D. agroforestry projects in both Asia and Latin America in 1988. The FSP Agroforestry Coordinator assisted A.I.D.'s Nepal mission by reviewing the management plan for the Dang/Deokhuri Agroforestry Project (part of the Rapti Development Project). Agroforestry, in the form of a modified taungya system, was proposed to help establish fuelwood plantations in areas of degraded natural forests. The Agroforestry Coordinator also traveled to Indonesia to assess the opportunities for A.I.D. to assist Indonesia's private sector with the production, use, and marketing of rattan and to visit A.I.D.'s Upland Watershed Project at Salatiga, where mixed cropping with fruit trees is being promoted to stabilize slopes.

FSP provided extensive background information on agroforestry in Asia for a policy study of sustainable agriculture conducted by A.I.D.'s Bureau for Program and Policy Coordination (PPC). The PPC study will help A.I.D. missions in Asia plan and support agroforestry projects and activities more effectively.

At the International Workshop on Multipurpose Tree Species for Small-Farm Use, held in Pattaya, Thailand, in November 1987 and organized by the Forestry/Fuelwood Research and Development (F/FRED) Project, a poster paper was presented by the Agroforestry Coordinator on "Palms as Multipurpose Cash and Subsistence Tree Crops." During the same trip, the Agroforestry Coordinator participated in the International Rattan Seminar in Chiangmai, Thailand. In September 1988, an invited lecture, titled "Economic and Ornamental Palms of the New World," was delivered by the Coordinator as part of official ceremonies opening the Townsville Palmetum in Queensland, Australia.

FSP's Coordinator for Africa was part of a three-person team that drafted the project identification document for work being proposed as a successor to

the highly successful Haiti Agroforestry Outreach Project. The team proposed that the new project continue to produce large numbers of seedlings that are appropriate for outplanting in agroforestry systems; refine outreach activities to better satisfy the needs of varied project participants, including those who planted trees during the early years of the Agroforestry Outreach Project; promote a more diverse array of soil conservation and agroforestry interventions; and conduct pilot studies and activities in the areas of conservation education, school nurseries, and small-scale community nurseries.

Other activities in Latin America and the Caribbean included work in Grenada, assisting the Regional Cocoa Rehabilitation and Development Project with the design of a cocoa agroforestry demonstration plot. As a member of the Advisory Group of the A.I.D. Development Strategies for Fragile Lands (DESFIL) Project, the Agroforestry Coordinator also represented A.I.D. at the Symposium on the Fragile Lands of Latin America, held in New Orleans in March 1988.

As noted in Chapter 6, FPEI researchers conducted a major study of agroforestry practices in coastal Ecuador in 1988.

Agroforestry Training

Three major agroforestry training activities were conducted in Latin America and the Caribbean during 1988. The FSP Agroforestry Coordinator assisted with course development and design for each of these training activities.



FSP promotes mutually beneficial linkages between forestry and agriculture. (Photo by D. Johnson)

and CUMAT, A.I.D., and FSP awarded training certificates to 23 participants, representing eight Bolivian agencies, who successfully completed the course.

Agroforestry Course for Pacific and Caribbean Island Foresters, Costa Rica, May 30–June 16, 1988

FSP supported and helped design a 3-week course that brought together 25 individuals from Pacific and Caribbean islands to share knowledge and experiences about insular agroforestry systems. The course was held at the Center for Tropical Agricultural Research and Training (CATIE) in Costa Rica. The Forest Service's Pacific Islands Forester, the Forest Service/A.I.D. Forestry Adviser for the Caribbean, FSP's Coordinator for Latin America and the Caribbean, and CATIE planned and developed the course. FSP and the Forest Service International Forestry Staff



FSP assisted A.I.D. with a study of sustainable agriculture practices in Asia. (Photo by P. Durst)

Agroforestry Training Course, Bolivia, October 5–22, 1987

FSP cooperated with A.I.D. and the Center for the Investigation of Land Use Capability (CUMAT), a Bolivian nongovernmental organization, in organizing and teaching a 3-week course on the analysis and design of agroforestry systems. The training was held in La Paz and Caranavi, Bolivia, in October 1987. FSP's Coordinator for Latin America and the Caribbean, the FSP Agroforestry Coordinator, and A.I.D.'s Regional Forestry Adviser for Central America and Panama served as principal instructors for the course. Assistance also was provided by A.I.D.'s Regional Environmental Adviser in Lima, Peru. The primary training reference for the course was the FSP/A.I.D. Office of Forestry, Environmental, and Natural Resources (FENR)-funded *Sistemas Agroforestales*, a comprehensive Spanish-language agroforestry textbook. CUMAT provided funding for participants,



FSP helped organize and teach three major agroforestry courses in Latin America. (Photo by P. Durst)

provided logistical and travel support for the participants. The FSP Agroforestry Coordinator served as an instructor. Sixteen of the training participants came from various Pacific countries and territories with historic ties to the United States. Nine participants came from the Caribbean, including seven who were funded by A.I.D. projects and two who were funded by the Organization of American States. A.I.D. participants came from Dominica, Haiti, Jamaica, St. Kitts and Nevis, and St. Vincent.

Agroforestry Training Workshop, St. Vincent, September 5-9, 1988

Thirteen forestry officers and five extension officers with the St. Vincent Forestry Department completed a basic agroforestry short course designed and taught by the FSP Agroforestry Coordinator and the Forest Service/A.I.D. Forestry Adviser for the Caribbean. A.I.D.'s Cumberland Hydroelectric Project paid all costs of the training, except for the salaries of the instructors.

Networking Activities

Given the large number of national and international organizations currently engaged in agroforestry development, good networking is essential. Key agencies being monitored by FSP include the International Council for Research in Agroforestry (ICRAF), the Peace Corps, the World Bank, the Pan American Development Foundation, the World Resources Institute, the Food and Agriculture Organization of the United Nations, the U.S. National Academy of Sciences, the World Wildlife Fund (WWF), the International Union for the Conservation of Nature and Natural Resources (IUCN), Conservation International, and The Nature Conservancy. The FSP Agroforestry Coordinator maintains regular contacts with these and other organizations in Washington, D.C., serving as a reviewer of proposals and technical papers and attending briefings and seminars.

The increasing interest in agroforestry within the United States is primarily related to education and training. To support and encourage this interest, the Agroforestry Coordinator served on the organizing committees for upcoming workshops and symposiums at the University of Florida and Washington State University (see Outlook section below).

In response to an invitation from WWF, the FSP Agroforestry Coordinator also attended the IUCN Species Survival Commission meeting in Costa Rica in January 1988. He serves as the Deputy Chairman of the IUCN Palm Specialist Group.

Publications

FSP continued promoting and monitoring the use of the Spanish-language agroforestry training manual, *Sistemas Agroforestales*, in cooperation with the Organization for Tropical Studies (OTS) in Costa Rica. The manual has been used for agroforestry training by OTS, CATIE, various Latin American universities, and the Peace Corps. The manual was favorably reviewed in several technical journals in 1988. Various individuals and organizations have suggested that either a second Spanish edition or an English translation of the manual be produced. FSP began investigating the feasibility of such an undertaking in 1988.

Three publications written by the FSP Agroforestry Coordinator were released during 1988. The Pan American Development Foundation issued *Proceedings of the First Inter-American Cocoa Forum*, containing a paper written by the Agroforestry Coordinator, titled "The Potential Contribution of Agroforestry Species to Small Farmer Cocoa Growing." "Palms as Multipurpose Cash and Subsistence Tree Crops" was included in *Multipurpose Tree Species for Small-Farm Use*, the proceedings of an international workshop held November 2-5, 1987, in Pattaya, Thailand. A joint review of two new books (*Agroforestry: A Decade of*



The FSP Agroforestry Coordinator published articles and presented papers on intercropping with palms. (Photo by D. Johnson)

Development and Agroforestry: Realities, Possibilities and Potentials) was published in *Farm Forestry News*, a newsletter published by the F/FRED Project. The Agroforestry Coordinator also served as a technical reviewer for agroforestry articles submitted to the *Journal of Forestry*.

With funding provided by FSP, CARE completed technical production of its *Agroforestry Extension Training Sourcebook* in 1988. The sourcebook is expected to be particularly useful for training agroforestry extensionists in Africa. FSP also provided comments on the technical aspects of Save the Children Federation's recently published handbook *Planning for Agroforestry*.

Outlook

In March 1988, the FSP forestry-agriculture initiative was extended for an additional 2-year period. FY 1989 promises to be another very active year. Building on previous technical assistance in Grenada, an extension pamphlet promoting cocoa agroforestry will be written for the East Caribbean Cocoa Project. It will complement the cocoa agroforestry demonstration plot established in Grenada with FSP technical assistance. The FSP Agroforestry Coordinator, in cooperation with the USDA Forest Service Institute of Pacific Islands Forestry, is planning a technical mission in 1989 to selected Pacific islands to organize

agroforestry seminars and to recommend plant varieties and cultural practices for improving agroforestry systems. In cooperation with foresters from the Institute of Pacific Islands Forestry, the FSP Coordinator for Asia and the Near East is planning to participate in a USDA Office of International Cooperation and Development-supported technical exchange program that will examine agroforestry systems in the Philippines and strengthen ties between U.S. and Filipino agroforestry specialists.

The Agroforestry Coordinator will chair the training session of the International Workshop on Professional Education for Training in Agroforestry, December 5-8, 1988, at the University of Florida. He also will represent FSP at the International Symposium on Planning for Agroforestry at Washington State University in April 1989.

Applied agroforestry research in FY 1989 will focus on date palm agroforestry. After completing a literature search—including a review of development projects working with this palm—field work will be carried out in a few selected countries to obtain knowledge of intercrops, date varieties, and land and labor requirements. FSP will publish the results of this research in late 1989.

Agroforestry has been identified by FENR as a priority area for possible new FENR initiatives. During FY 1989, FSP will work closely with FENR to identify potential new agroforestry programs and activities.

Chapter 8

Forestry Supported by Food Aid and Voluntary Organizations

FSP's coordination and cooperation with A.I.D.'s food-aid- and voluntary-organization-supported forestry programs have reached high levels of recognition and acceptance. FSP has moved from simply advocating food-aid-supported forestry to actively providing technical assistance to the growing number of food-aid-supported natural resources activities worldwide.

FSP provides technical advice to forestry projects funded by titles I, II, and III of Public Law 480; section 416 of the Agricultural Act; supporting dollar programs; and local currency available from development assistance funds, economic support funds, and the Commodity Import Program. Special attention is focused on increasing the ability of U.S. private voluntary organizations (PVOs), other nongovernmental organizations (NGOs), and the Peace Corps to use these resources to support their goals in forestry and natural resources management.

Areas of Concentration

FSP's efforts to improve the developmental impacts of food-aid-supported and PVO- or NGO-implemented forestry and natural resources activities continued in the following six areas during 1988:

1. **Gathering, maintaining, and monitoring information on food-aid-supported forestry projects and activities worldwide.** The computerized data base previously established by FSP for identifying and monitoring food aid forestry activities overseas has been maintained during 1988. Summary information derived from the data base was used in preparing FSP's report on *Forestry Activities of the U.S. Agency for International Development* and A.I.D.'s Report to Congress on *Progress in Conserving Tropical Forests and Biological Diversity in Developing Countries*.



Food-for-work programs support erosion control measures in many developing countries. (Photo by K. Hunter)

2. **Increasing the long-term impact of food-aid-supported forestry development.** FSP participated in the Congressional Research Service workshop titled "The Effectiveness of Food Aid: Implications of Changes in Farm, Food Aid, and Trade Legislation"; an A.I.D. workshop on Public Law 480 title III programs in Africa; and the A.I.D. Bureau for Africa's PVO Food Aid Task Force. A.I.D.'s Office of Private and Voluntary Cooperation Development Grants Program now eagerly accepts proposals for forestry and natural resources activities, especially those projects that are supported by a variety of funding sources and involve collaboration with indigenous NGOs and the Peace Corps.

FSP worked closely with the Peace Corps in 1988 to place its Volunteers with food-aid-supported forestry and natural resources projects



Many community tree-planting projects are supported by Public Law 480 food resources. (Photo by P. Durst)

and to increase the integration of food aid with other development assistance resources.

The 1988 A.I.D. Policy on the Environment and Natural Resources devotes considerable attention to the use of U.S. food aid for improving natural resources management in developing countries. Similar focus now appears in many Country Development Strategy Statements prepared by A.I.D. missions.

3. **Providing technical assistance for food-aid-supported forestry activities.** The FSP Food Aid and Voluntary Assistance Coordinator worked with a Peace Corps design team to develop an integrated multiyear Peace Corps program to assist a regional rural development agency in northwestern Tunisia. The program will use World Food Program commodities and local currency generated by the sale of donated title I food to support agriculture, range management, and forestry development. By the end of 1988, the first groups of Peace Corps Volunteers had been selected and trained, and they had begun their project work.

In Guatemala, the FSP Food Aid and Voluntary Assistance Coordinator and FSP's Coordinator for Latin America and the Caribbean helped a PVO redesign a small food aid grants program to support feeding and food-for-development projects. The largest grant awarded under the program would go to the Guatemala City watershed management agency to support erosion control and reforestation activities.

4. **Coordinating with A.I.D. regional bureaus, A.I.D.'s Bureau for Food for Peace and Voluntary Assistance, Food for Peace officers, and related agencies and individuals.** Using the Forest Service computer system, FSP created a mailing list that facilitates the rapid dissemination of technical material to agencies and individuals interested in food-aid-supported forestry. More than 30 mailings of selected information on food aid were sent to 75 organizations and individuals in 1988. The USDA Foreign Agricultural Service, USDA Agriculture Stabilization and Conservation Service, USDA Economic Research Service, USDA Office of International Cooperation and Development, the Congressional Research Service, the Environment and Energy Study Institute, and the U.S. Congress Office of Technology Assessment also now contribute information for the network.

5. **Assisting A.I.D. and Peace Corps country missions with project identification, formulation, execution, and evaluation.** The FSP Food Aid and Voluntary Assistance Coordinator led a three-person team that designed the new Natural Resources Management Project for the A.I.D. mission in Niger. The proposed project will combine A.I.D. development assistance funds, local currency generated by the sale of food, and a multiyear commitment of Peace Corps support to accomplish resource management objectives.

In collaboration with the Peace Corps and A.I.D., FSP helped organize a Food Aid and Natural Resources Programming Workshop for Latin America in February 1988. The workshop, held in Guatemala, was attended by representatives from A.I.D., the Peace Corps, international PVOs, local NGOs, and government ministries from Bolivia, Costa Rica, Ecuador, Guatemala, Honduras, Peru, and the Dominican Republic. As a result of the workshop, several new or substantially improved food-aid-supported forestry programs have been planned or developed.

6. **Cooperating with other related institutions and PVOs actively implementing food aid programs and forestry projects.** FSP continued to work closely with PVOs at both the international and the country levels to improve their capabilities for implementing A.I.D. forestry activities. Cooperators in 1988 included the Adventist Relief and Development Agency, Africare, CARE, Catholic Relief Services, the Conservation Foundation, the International Institute for Environment and Development, Lutheran World Relief, The Nature Conservancy, the Pan American Development Foundation, Save the Children, SHARE, the World Resources Institute, World Vision, and others. The FSP Food Aid and Voluntary Assistance Coordinator served on the A.I.D. Interagency PVO Liaison Committee, the United Nations Non-governmental Liaison Service Advisory Committee, the A.I.D. Matching and Partnership Grant Review Committees for CARE and the World Wildlife Fund/Conservation Foundation, and the



Food aid is frequently used to fund windbreak establishment and sand dune stabilization in Africa. (Photo by T. Resch)

A.I.D. Bureau for Africa's Food Aid Task Force. FSP continued to facilitate A.I.D. and PVO interactions with the World Food Program in 1988.

Outlook

FSP is planning to intensify efforts in FY 1989 to integrate food aid resources with other developmental resources supporting forestry in the developing world. Specific activities planned for 1989 include the following:

- Organizing and participating in a regional or country-level Food Aid and Natural Resources Programming Workshop for Francophone Africa,
- Continuing technical assistance to A.I.D.'s Bureau for Food for Peace and Voluntary Assistance for managing its forestry and natural resources portfolio,
- Expanding technical assistance to the growing number of food aid activities within the regular programs of the A.I.D. regional bureaus and missions, and
- Presenting seminars and briefings on food aid and PVO-implemented forestry and natural resources projects.

Overview

The FSP social forestry initiative evolved out of concern by the A.I.D. Bureau for Science and Technology's Offices of Rural and Institutional Development (S&T/RD) and Forestry, Environment, and Natural Resources (S&T/FENR) that social forestry issues were receiving inadequate attention by development projects. Officials also perceived a need for greater cooperation between S&T/RD and S&T/FENR. S&T/RD had, for several years, supported small social forestry and natural resources activities, but lacked specific in-house expertise in the area. Through a Resource Support Services Agreement with USDA, A.I.D. established the social forestry initiative within FSP in late 1987. The initiative completed its first full year of activities in 1988.

One of the FSP Social Forestry Coordinator's major responsibilities is backstopping the social science ac-

tivities of A.I.D.'s Forestry/Fuelwood Research and Development (F/FRED) Project. The F/FRED Project is jointly managed by S&T/FENR, S&T/RD, and A.I.D.'s Bureau for Asia and the Near East (ANE). These linkages demonstrate the importance of professional integration in international forestry development—a major theme of FSP's social forestry initiative.

The Social Forestry Coordinator also provides support to other projects, bureaus, and missions involved with forestry, natural resources, and rural development. The social forestry initiative promotes an enhanced awareness of the integral role that local people play in all aspects of forestry. It reflects the conviction stated by Gifford Pinchot, first Chief of the Forest Service: "To start with I had to know something about the people, the country, and the trees. And of the three, the first was the most important." It also responds to a statement by international forester Jack Westoby: "Forestry is not about trees; it is about people. And it is about trees only insofar as trees can serve the needs of the people."

Much of the activity of the Social Forestry Coordinator during the year was field oriented, with considerable travel in support of bureau, mission, and project activities in South and Southeast Asia and with ties to Africa and Latin America.

Project Support for F/FRED

The Social Forestry Coordinator's support to the F/FRED Project is designed to promote and improve social science understanding in research related to multipurpose tree species (MPTS) use on small farms. The project supports Asian institutions and a network of individual scientists concerned with MPTS in the tropical humid/subhumid and arid/semiarid ecological zones.

During 1988, the Social Forestry Coordinator participated in the monthly F/FRED coordinating meetings, prepared agency briefings on social science aspects of the project, and monitored project activities in the field. The Social Forestry Coordinator also assisted S&T/RD staff in designing an innovative social forestry curriculum activity for Asia and helped prepare for the midproject evaluation of the F/FRED Project scheduled for early FY 1989.

Throughout all these activities, facilitating the dialog between biological and social scientists has been a major goal. Awareness of the social and cultural dimensions of tree growing and forest



FSP's social forestry initiative seeks to enhance awareness of the integral role that local people play in all aspects of forestry. (Photo by International Development Research Centre)

management has encouraged F/FRED Project cooperators to conduct collaborative research to determine the tree-growing objectives of small farmers in Asia. The project also promotes biologically sustainable, culturally sensitive, and socially acceptable ways of producing and using indigenous tree species; encourages the adoption of unfamiliar species; and promotes improved silvicultural management of multipurpose trees. Indigenous knowledge and an appreciation of traditional systems of forest management are essential components of the project's research activities. To further these efforts, the Social Forestry Coordinator participated in F/FRED-sponsored regional workshops on MPTS for small-farm use (Thailand), MPTS research in the arid and semiarid tropics (Pakistan), and standardized methods for social and economic research on farm and village forestry (Nepal).



The F/FRED project conducts research to determine the tree-growing objectives of rural residents in Asia. (Photo by J. Laarman)

The Social Forestry Coordinator assisted the F/FRED Project Social Scientist in selecting recipients of small grants for socioeconomic research and case studies of MPTS use on farms in Asia. In addition, the Coordinator monitored the development of regional MPTS network studies and a farm and village forestry minimum data base. The network studies are closely associated with the biological research activities of the project. The farm and village minimum data base is the project's socioeconomic complement to the F/FRED biological data base.

Social Science and Forestry Curriculum Activity

During the year, a special "Curriculum Activity" was designed to better integrate the social sciences into forestry education in Asia. The Social Forestry Coordinator helped plan this activity with S&T/RD, Winrock International (the principal F/FRED contractor), and Yale University (one of the project's subcontractors). A workshop for forestry educators will be held at Khon Kaen, Thailand, and will highlight the experiences of Asian institutions currently offering social forestry training. The workshop also will serve to develop guidelines for promoting links between the social and biological sciences in academic and research programs.

Reports and Publications

The social forestry initiative produced two papers during 1988. The first was based on a lecture on social forestry presented to Sudanese foresters and representatives of donor agencies and nongovernmental organizations (NGOs) at the Central Forestry Administration in Khartoum, Sudan. It is titled "Notes for the Social Science of Forestry: Some Approaches to Interactive Research Linkages for Development Forestry" and focuses on forestry as a sociocultural venture and on the definitions of "social forestry," "community forestry," and "conventional forestry." The paper also discusses two promising new directions in social forestry. One is the regional networking research being developed by the F/FRED Project; the other is a joint proposal for interactive research and extension, prepared by social forestry colleagues with the Food and Agriculture Organization of the United Nations and the International Council for Research in Agroforestry (ICRAF). A second paper was prepared



Social forestry projects often focus on nonmarketed forest products essential to small farmers. (Photo by World Neighbors)

with the assistance of a social forestry intern who worked with FSP in mid-1988. It is titled "Social Forestry: The Current State of Knowledge."

The Social Forestry Coordinator also published "Success in Small Farmer Development: Paper Making at Pang and Nanglibang, Nepal" in *World Development*. The article is based on prior research of labor-intensive papermaking using the inner bark of *Daphne* spp., common in the high-forest areas of the Himalayas.

Networking Activities

The Social Forestry Coordinator participated in conferences on the research and development of natural resources at the World Bank (Washington, D.C.), the National Zoo of the Smithsonian Institution (Washington, D.C.), the International Centre for In-

tegrated Mountain Development (Kathmandu, Nepal), the East-West Center (Honolulu, Hawaii), and F/FRED-related workshops in Thailand, Nepal, and Pakistan. He also taught a unit on social science to participants during a 6-month community forestry certificate course at the Regional Community Forestry Training Centre at Kasetsart University in Bangkok, Thailand.

The Social Forestry Coordinator served as a discussant at the National Zoo conference titled "Culture: The Missing Element in Conservation and Development." The Coordinator's comments, which will be published with the conference proceedings in 1989, highlight the human dimensions of conservation and development problems and describe culture as an essential element of conservation solutions and development strategies. A significant theme of the conference was the need for local participation, or "co-management," in forestry and natural resources development.

Outlook

FSP's social forestry activities are expected to expand during the coming year in response to A.I.D.'s strong interest in this initiative. The Social Forestry Coordinator will continue to support the F/FRED Project in Asia and other activities as identified by S&T/RD and S&T/FENR, including the preparation of a concept and strategy paper on the role and vision of social science in development forestry. This paper will provide focus for S&T/RD's initiatives in social forestry and will form the foundation for planning amendments to the F/FRED Project.

Prospective travel in FY 1989 includes attendance at the F/FRED Social Forestry Curriculum Workshop in Khon Kaen, Thailand, and participation in the F/FRED Project's Coordinating Meeting in Bangkok, Thailand. The findings of the midproject evaluation are expected to be a major topic of discussion at this annual meeting of project managers, staff, and advisers.

Networking activities anticipated by the Social Forestry Coordinator include attendance at a national conference on indigenous knowledge in natural resources and agriculture and participation at the Annual Meeting of the Association for Asian Studies on a panel that will focus on colonial and contemporary natural resources management in Asia.

Appendix A

FSP Roster Use, Fiscal Year 1988

Date	Requester	Region	Location	Duration (yrs, wks)	Specialties
10/6	A.I.D.	Global	Washington, DC	3,0	Ecology, botany, wildlife management
10/6	A.I.D.	LAC	Washington, DC	3,0	Biology, botany, plant science, Spanish
10/9	A.I.D.	LAC	Guatemala	2,0	Environment, land use planning, Spanish
10/13	A.I.D./U. Minn.	LAC	Costa Rica	2,0	Economics, Spanish
10/16	A.I.D.	ANE	Nepal	4,0	Administration
10/16	A.I.D.	ANE	Nepal	0,12	Policy, administration, legislation
10/20	A.I.D.	ANE	Indonesia	0,4	Economics, policy
10/23	World Bank	ANE	Nepal	0,4	Training
10/23	A.I.D.	LAC	Costa Rica	1,24	Extension, Spanish
10/23	A.I.D.	LAC	Peru	2,0	Project management, Spanish
10/28	A.I.D./CARE	AFR	Sudan	0,5	Anthropology, sociology
10/28	A.I.D.	AFR	Sudan	0,3	Arid-zone forestry, policy, administration
10/28	A.I.D.	AFR	Sudan	0,3	Arid-zone forestry, project management
10/29	Peace Corps	AFR	Niger	0,12	Arid-zone forestry, training, French
11/18	A.I.D.	AFR	Sudan	0,4	Anthropology, sociology, extension
11/23	A.I.D.	LAC	Peru	2,0	Forest management, Spanish
12/3	A.I.D./Yale U.	Global	United States	5,0	Ecology, botany, research
12/8	A.I.D./FS	Global	Global assignments	2,0	Anthropology, sociology
12/9	A.I.D./DASP	LAC	Argentina	0,4	Fire management, disaster management, Spanish
12/9	World Bank	LAC	Brazil	0,4	Anthropology, sociology, Portuguese
12/9	World Bank	LAC	Mexico	0,5	Land use planning, environmental assessment, Spanish
12/10	AIT	ANE	Thailand	3,0	Communications, anthropology, business management
12/10	AIT	ANE	Thailand	3,0	Environmental assessment, range management
12/14	World Bank	LAC	Mexico	0,5	Harvesting, Spanish
12/16	World Bank	LAC	Brazil	0,8	Extension, Portuguese
12/23	A.I.D.	ANE	Egypt	0,4	Biology, fisheries, Near East experience
12/28	ITTO	ANE	Japan	7,0	Sawmilling, products
12/28	A.I.D.	AFR	Sudan	0,5	Sociology, anthropology
12/30	A.I.D./FS	LAC	Honduras	2,0	Forest management, silviculture, Spanish
12/30	A.I.D./FS	LAC	Honduras	2,0	Communications, computers, Spanish
12/30	A.I.D./FS	LAC	Honduras	2,0	Sawmilling, products, Spanish
1/5	Ford Foundation	ANE	Thailand	3,0	Agroforestry, economics, anthropology, Thai
1/5	Ford Foundation	ANE	Philippines	3,0	Agroforestry, sociology, Philippine experience
1/7	A.I.D.	ANE	Nepal	0,6	Watershed management, hydrology
1/7	A.I.D.	ANE	Nepal	0,6	Policy, economics
1/12	FAO	Global	Italy	2,0	Agroforestry, agronomy
1/13	Peace Corps	Global	Global assignments	2,0	Forest management, natural resources management
1/14	A.I.D.	AFR	Niger	0,6	Economics, land use assessment, French

Appendix A

FSP Roster Use, Fiscal Year 1988 (continued)

Date	Requester	Region	Location	Duration (yrs, wks)	Specialties
1/14	A.I.D.	AFR	Niger	0,6	Arid-zone forestry, silviculture, French
1/14	A.I.D.	AFR	Niger	0,6	Biometrics, mensuration, French
1/15	A.I.D.	LAC	Haiti	0,2	Entomology, French, Creole
1/19	A.I.D.	ANE	Nepal	0,6	Sociology, anthropology
1/20	World Bank	LAC	Mexico	0,3	Roads, engineering, Spanish
1/22	World Bank	LAC	Mexico	0,3	Harvesting, Spanish
1/26	AIT	ANE	Thailand	5,0	Forest management, silviculture
1/27	World Bank	ANE	Bhutan	0,24	Range management, soil science
1/29	A.I.D.	AFR	Niger	0,4	Project design, French
2/5	A.I.D.	AFR	Rwanda	0,3	Agroforestry, policy, French
2/8	A.I.D./IIED	AFR	Burundi	0,4	Private voluntary organization experience, French
2/17	A.I.D.	LAC	Jamaica	0,2	Park management, environmental assessment
2/19	A.I.D.	AFR	Niger	2,0	Project management, French
3/1	A.I.D./FS	LAC	Honduras	0,12	Project design, land use planning, Spanish
3/1	FAO	Global	Italy	0,8	Harvesting
3/1	A.I.D.	AFR	Sudan	2,0	Arid-zone forestry, agroforestry, agriculture
3/2	A.I.D.	LAC	Costa Rica	2,0	Anthropology, sociology, computers, Spanish
3/8	A.I.D./STC	AFR	Somalia	0,4	Somalia experience, project design
3/8	OICD	LAC	Washington, DC	2,0	Administration, project management, Spanish
3/8	A.I.D.	LAC	Belize	0,4	Economics
3/14	FS	ANE	Saipan	2,0	Asia experience, U.S. Government employee
3/15	A.I.D.	ANE	Burma	0,4	Agroforestry, Asia experience
3/15	OPIC	LAC	Costa Rica	0,4	Forest management, Spanish
3/21	A.I.D.	LAC	Peru	2,0	Land use planning, environmental assessment, Spanish
3/21	A.I.D.	LAC	Belize	0,3	Park management
3/22	A.I.D./DASP	ANE	Morocco	0,12	Aviation, disaster management, French
3/22	FAO	ANE	Philippines	0,5	Fire management
3/23	IUCN	AFR	Uganda	1,0	Agroforestry, agriculture, land use planning
3/31	A.I.D.	ANE	Oman	1,0	Environmental assessment, policy, Arabic
3/31	A.I.D.	ANE	Oman	1,0	Watershed management, hydrology, policy, Arabic
3/31	A.I.D.	AFR	Niger	0,5	Agroforestry, soil science, research, French
4/6	A.I.D./DAI	AFR	Rwanda	3,0	Economics, French
4/6	A.I.D.	LAC	Haiti	1,24	Agroforestry, French, Creole
4/6	A.I.D.	LAC	Haiti	1,24	Economics, French, Creole
4/6	A.I.D./DASP	Global	Global assignments	0,4	Disaster management
4/7	A.I.D.	AFR	Guinea	0,5	Agroforestry, watershed management, French
4/7	A.I.D.	AFR	Guinea	0,5	Anthropology, sociology, French
4/13	World Bank	LAC	Mexico	0,4	Agroforestry, forest management, Spanish
4/14	A.I.D.	ANE	Nepal	0,8	Land use planning, remote sensing, training
4/22	A.I.D.	LAC	Costa Rica	0,6	Harvesting, forest management, Spanish

4/27	IUCN	Global	Switzerland	2,0	Writing, Spanish, French
4/28	A.I.D.	Global	Washington, DC	1,0	Computers
5/2	A.I.D./FS	Global	Washington, DC	0,4	Education, extension
5/3	FAO	ANE	Nepal	3,0	Anthropology, sociology, cooperatives
5/5	Peace Corps	AFR	Washington, DC	0,12	Writing, French
5/6	A.I.D./Winrock	ANE	Thailand	0,8	Tree improvement, seed technology
5/10	A.I.D.	AFR	Ghana	0,3	Training, education, extension
5/10	IDB	LAC	Brazil	0,8	Ecology, environment, Spanish, Portuguese
5/11	A.I.D.	LAC	Haiti	0,4	Agroforestry, economics
5/12	World Bank	LAC	Haiti	0,8	Project design, Haitian experience, Creole
5/17	A.I.D.	AFR	Rwanda	0,2	Economics, policy, marketing
5/18	FAO	ANE	Bhutan	1,0	Silviculture, research
5/18	A.I.D.	AFR	African assignments	2,0	Agroforestry, wildlife management, French
5/25	World Bank	ANE	Indonesia	2,0	Economics, policy
5/26	FAO	Global	Italy	2,0	Economics, sociology, communications
5/27	FAO	ANE	Bhutan	2,0	Nursery management, plantations
6/2	FAO	Global	Italy	2,0	Legislation, policy
6/3	A.I.D.	LAC	Costa Rica	3,0	Policy, administration
6/8	IUFRO	LAC	Brazil	0,1	Products, utilization, sawmilling, Spanish
6/8	A.I.D./IIED	LAC	Guatemala	0,3	Economics, anthropology, Spanish
6/8	A.I.D./IIED	LAC	Guatemala	0,3	Park management, Spanish
6/8	A.I.D./IIED	LAC	Guatemala	0,3	Ecology, plant science, botany, Spanish
6/13	WFP	Global	Italy	3,0	Writing, communications
6/14	A.I.D./FS	Global	Global assignments	0,2	Agroforestry, training, ecology
6/14	A.I.D./FS	Global	Global assignments	0,2	Extension, agroforestry, ecology
6/24	A.I.D./WWF	Global	Washington, DC	5,0	Project management, administration
6/27	A.I.D./VITA	AFR	Sudan	2,0	Agroforestry, nursery management, Arabic
6/27	FAO	Global	Italy	2,0	Economics
6/27	FAO	Global	Italy	2,0	Economics, agriculture
6/27	FAO	LAC	Argentina	1,0	Economics, agriculture, Spanish
6/27	FAO	Global	Italy	2,0	Hydrology
6/28	A.I.D./FS	ANE	Washington, DC	2,0	Asia experience, U.S. Government employee
7/1	FAO	Global	Italy	2,0	Harvesting, utilization, products
7/4	A.I.D./FS	ANE	Washington, DC	0,4	FS employees, Asia experience
7/5	ISTF	Global	Washington, DC	5,0	Writing, Spanish
7/5	A.I.D.	ANE	Indonesia	0,12	Project design, administration
7/5	A.I.D.	ANE	Indonesia	0,8	Land use planning, policy, Bahasa
7/5	A.I.D.	ANE	Indonesia	0,20	Park management, biology, Bahasa
7/21	A.I.D./FS	AFR	United States	0,1	French, FS employee, African experience
7/21	A.I.D./FS	Global	Washington, DC	0,12	Plant science, tree improvement
7/26	FAO	Global	Italy	2,0	Harvesting, products, utilization, sawmilling
7/26	FAO	Global	Italy	2,0	Forest management, Spanish, French
7/26	FAO	Global	Italy	2,0	Project management, administration, Spanish
7/26	FAO	AFR	Italy	2,0	Project management, administration, French
7/28	FAO	ANE	Indonesia	2,0	Remote sensing, mapping, land use planning
7/28	FAO	ANE	Indonesia	2,0	Biometrics, mensuration

Appendix A
FSP Roster Use, Fiscal Year 1988 (continued)

Date	Requester	Region	Location	Duration (yrs, wks)	Specialties
7/28	FAO	ANE	Indonesia	4,24	Biometrics, project management
8/1	A.I.D.	LAC	Ecuador	0,4	Entomology, Spanish
8/2	A.I.D.	LAC	Dominican Republic	0,3	Writing, Spanish
8/3	FAO	LAC	Honduras	2,0	Project management, administration, Spanish
8/3	A.I.D.	LAC	Guatemala	2,0	Roads, Spanish
8/4	A.I.D./CARE	AFR	Rwanda	2,0	Agroforestry, French
8/4	A.I.D./CARE	AFR	Regional assignment	2,0	Agroforestry, French
8/10	A.I.D.	ANE	Regional assignment	0,5	Computers
8/18	FAO	AFR	Italy	2,0	Economics, policy, French
8/29	CATIE	LAC	Costa Rica	2,0	Agroforestry, education, Spanish
8/30	A.I.D./FS	LAC	Honduras	2,0	Watershed management, Spanish
9/8	WWF	EUR	Greece	1,0	Wildlife management, Greek
9/12	FAO	LAC	Chile	2,0	Communications, writing, Spanish
9/13	OICD	EUR	Washington, DC	1,0	Peace Corps experience, Spanish
9/13	FAO	Global	Italy	2,0	Project management, administration, French
9/14	A.I.D.	ANE	Bangladesh	0,4	Watershed management, hydrology
9/21	A.I.D./DASP	Global	Washington, DC	2,0	Disaster management
9/21	A.I.D./NFTA	Global	Hawaii	2,0	Writing, communications
9/21	A.I.D./WWF	Global	Washington, DC	1,0	Botany, plant science, ecology, Spanish, Portuguese
9/21	A.I.D.	LAC	Peru	0,2	Watershed management, hydrology, soils, Spanish
9/21	A.I.D./WWF	Global	Washington, DC	2,0	Policy
9/23	A.I.D./FS	Global	Washington, DC	2,0	Project management
9/27	A.I.D./WWF	Global	Washington, DC	2,0	Biology, ecology, project management

Abbreviations

AFR	Africa	ITTO	International Tropical Timber Organization
AIT	Asian Institute of Technology	IUCN	International Union for the Conservation of Nature and Natural Resources
ANE	Asia and the Near East	IUFRO	International Union of Forestry Research Organizations
CATIE	Center for Tropical Agricultural Research and Training (translated)	LAC	Latin America and the Caribbean
DAI	Development Alternatives, Inc.	NFTA	Nitrogen Fixing Tree Association
DASP	Disaster Assistance Support Program	OICD	USDA Office of International Cooperation and Development
EUR	Europe	OPIC	Overseas Private Investment Corporation
FAO	Food and Agriculture Organization of the United Nations	STC	Save the Children Federation
FS	USDA Forest Service	VITA	Volunteers in Technical Assistance
IDB	Inter-American Development Bank	WFP	World Food Program
IIED	International Institute for Environment and Development	WWF	World Wildlife Fund
ISTF	International Society of Tropical Foresters		

Appendix B

FSP Overseas Technical Consultations by Region, Fiscal Year 1988¹

Country	Dates	Names	Affiliation	Purpose of Trip
Africa				
Botswana	4/22-5/13	Gary Wetterberg, LeRoy Duvall	FSP	Conduct biological-diversity and tropical forest assessment
Kenya	5/13-5/19	Don Messerschmidt	FSP	Review Africa forestry activities; tour International Council for Research in Agroforestry; review Rwanda social forestry project plans
Niger	5/13-6/16	Tim Resch	FSP	Assist with writing the project identification document for the Forest Resources Management Project
Sudan	5/9-5/13	Don Messerschmidt	FSP	Lecture on social forestry; review social forestry plans and activities
Asia and Near East				
Indonesia	2/26-3/4	Dennis Johnson	FSP	Investigate the potential of rattan for agroforestry and rural development
Morocco	10/1-10/15	LeRoy Duvall	FSP	Assist in developing a biological diversity action plan
Nepal	10/18-10/28	Don Messerschmidt	FSP	Assist in design of forestry project identification document; attend mountain area research conference
Nepal	2/9-2/25	Dennis Johnson	FSP	Review Dang/Deokhuri Agroforestry Project component of the Rapti Development Project
Nepal	4/11-5/15	Rich Calnan	FSP	Participate in evaluation of A.I.D.'s Resource Conservation and Utilization Project
Nepal	4/18-5/5	Don Messerschmidt	FSP	Assist in writing Social Soundness Analysis for Forestry Development Project; attend Forestry/Fuelwood Research and Development Project (F/FRED) Social Science Research Workshop
Pakistan	11/16-11/23	Don Messerschmidt	FSP	Participate in the F/FRED Arid Lands Workshop; confer with A.I.D. foresters; tour forestry project sites and Pakistan Forestry Institute
Philippines	2/1-2/7	Patrick Durst	FSP	Review the progress of contract reforestation activities
Thailand	10/28-11/6	Don Messerschmidt	FSP	Participate in Multipurpose Tree Species Workshop
Thailand	10/31-11/17	Dennis Johnson	FSP	Participate in F/FRED Multipurpose Tree Species Workshop and International Rattan Seminar
Thailand	1/8-1/31	Patrick Durst	FSP	Assist A.I.D. mission with design of new Natural Resources Management Project
Thailand	5/5-5/9	Don Messerschmidt	FSP	Consult with F/FRED; teach a unit at Regional Community Forestry Training Centre at Kasetsart University
Thailand	8/19-8/30	Patrick Durst	FSP	Participate in International Symposium on Nature Conservation and Tourism Development

Appendix B
FSP Overseas Technical Consultations by Region, Fiscal Year 1988 (continued)

Country	Dates	Names	Affiliation	Purpose of Trip
Asia and Near East (cont.)				
Thailand	9/16-9/22	Don Messerschmidt	FSP	Attend F/FRED Social Forestry Curriculum Activities Advisory Board Meeting
Tunisia	10/27-11/17	Tim Resch	FSP	Participate in a Peace Corps programming mission in support of World Food Program Integrated Rural Development Program
Latin America and the Caribbean				
Barbados, Antigua and Barbuda, St. Kitts and Nevis, St. Vincent, Grenada, Dominica, St. Lucia, Montserrat, Trinidad and Tobago	6/27-7/18	Dan Nolan	Forest Service	Assist with Tropical Forestry Action Plan for the Eastern Caribbean
Barbados	9/1-9/4	Dennis Johnson	FSP	Brief the A.I.D. Regional Development Office on the St. Vincent Agroforestry Workshop
Bolivia	10/5-10/16	Kathryn Hunter	FSP	Teach an agroforestry training course to Center for Investigation of Land Use Capability of Bolivia (CUMAT) extensionists
Bolivia	10/12-10/22	Dennis Johnson	FSP	Teach an agroforestry training course to CUMAT extensionists
Brazil	5/11-5/22	Vicente Molinos	SCFER	Participate in International Union of Forestry Research Organizations Wood Utilization Group Technical Meeting
Chile	4/4-4/12	Lourdes Orejuela F. Prado	CORMADERA Consultant	Study tour of Chilean wood construction industry
Colombia	2/17-2/21	Vicente Molinos	SCFER	Consult with bamboo construction experts; review bamboo silvicultural research
Costa Rica	1/28-1/31	Dennis Johnson	FSP	Attend Species Survival Commission meeting of International Union for the Conservation of Nature and Natural Resources (IUCN) and visit A.I.D.'s regional forestry projects
Costa Rica	1/29-2/14	Gary Wetterberg	FSP	Visit A.I.D. regional Tree Crops Production Project and attend the IUCN General Assembly
Costa Rica	3/22-3/30	Vicente Molinos	SCFER	Explore opportunities for expansion of the Forestry Private Enterprise Initiative (FPEI) to Central America
Costa Rica, Guatemala	5/24-6/3	Vicente Molinos, Doug MacKinnon	SCFER	Explore opportunities for expansion of FPEI to Central America
Costa Rica	6/8-6/12	Jan Laarman	SCFER	Study of economic impact of the Organization for Tropical Studies
Costa Rica	6/8-6/16	Dennis Johnson	FSP	Participate in agroforestry course for Caribbean and Pacific Islands foresters with the Center for Tropical Agricultural Research and Training (CATIE)

Dominica Ecuador	6/20–6/26 10/1–12/20	Robert Healy Jeff Prestemon	SCFER SCFER	Investigate the economic impact of nature tourism Research employment and efficiency in the forest products industries of Ecuador
Ecuador Ecuador	10/3–1/31 10/25–10/27	Michael Mussack S. Hanover, N. Weidhans, J. Denig, R. Meekins Kathryn Hunter	SCFER Consultants	Survey agroforestry practices Assess Ecuadorian wood products industry
Ecuador	12/6–12/11	Charles Van Sickle Doug MacKinnon Scott Lampman Ralph Alig, Denise Ingram	FSP SCFER SCFER SCFER SCFER	Administrative visit to FPEI
Ecuador	1/19–6/29 3/3–3/8	Francisco Castano	Consultant	Survey agroforestry practices Research the competitiveness of Ecuador's forest products industry
Ecuador	3/3–3/15			Assess the feasibility of commercial bamboo management in Ecuador
Ecuador	4/18–4/28	A. Quezado	Consultant	Advise on the operation and maintenance of bandsaws
Ecuador	5/3–5/6	Robert Youngs	Consultant	Assess wood products industry
Ecuador	6/11–6/18	Jan Laarman D. Contesse, C. Donoso, Glez de Moya, J. Rodriguez, J. Sosa, A. Lehnhoff	SCFER Consultants	Participate in the FPEI Private Forestry Initiative for Development (INFORDE) Jornadas Forestales
Ecuador	6/26–7/5	Robert Healy	SCFER	Investigate the economic impact of nature tourism
Ecuador	7/3–7/16	Francisco Castano	Consultant	Assess the feasibility of commercial bamboo management in Ecuador
Grenada	5/16–5/20	Dennis Johnson	FSP	Assist Regional Cocoa Rehabilitation and Development Project with the design of demonstration plot
Guatemala	11/9–11/14	Gary Wetterberg	FSP	Address National Conference on Natural Resources
Guatemala	2/7–2/12	Kathryn Hunter, Tim Resch	FSP	Participate in Peace Corps Food A.I.D. and Natural Resources Workshop
Guatemala, Honduras Guatemala	2/29–3/10 4/4–4/9	Vincente Molinos Kathryn Hunter	SCFER FSP	Explore opportunities for expansion of FPEI to Central America Participate in Central American Environmental Strategy Seminar sponsored by A.I.D./Regional Office for Central America Programs
Guatemala	7/6–7/14	Robert Healy	SCFER	Investigate the economic impact of nature tourism
Guatemala	8/1–8/10	Vicente Molinos	SCFER	Explore opportunities for expansion of FPEI to Central America
Guatemala	8/7–8/14	Doug MacKinnon	SCFER	Plan for FPEI relocation to Central America
Guatemala	9/24–9/30	Kathryn Hunter, Tim Resch	FSP	Assist A.I.D./Guatemala with the design of a food-aid-supported forestry project to be implemented by SHARE/Guatemala
Haiti Honduras	8/7–9/4 2/1–2/6	LeRoy Duvall Kathryn Hunter	FSP FSP	Assist with planning of new Haiti Agroforestry Project Write scope of work for Honduras Forestry Development Project
Honduras St. Vincent	8/1–8/6 9/5–9/9	Kathryn Hunter Dennis Johnson	FSP FSP	Preliminary work for Honduras Forestry Development Project Co-conduct agroforestry training workshop for the Forestry Department

Appendix B
FSP Overseas Technical Consultations by Region, Fiscal Year 1988 (*continued*)

Country	Dates	Names	Affiliation	Purpose of Trip
Other				
Australia	9/14-9/21	Dennis Johnson	FSP	Present invited lecture "Economic and Ornamental Palms of the New World"
Canada	6/19-6/23	Doug MacKinnon	SCFER	Participate in Forest Products Research Society Annual Meeting

¹Consultations are only identified for which FSP had a direct funding role; they do not include assignments by personnel identified by FSP but funded entirely by A.I.D. missions, the World Bank, the Peace Corps, or others.

Abbreviations: CORMADERA, Center for Technical Support to Wood Products and Furniture Industries of Ecuador; SCFER, Southeastern Center for Forest Economics Research.

Appendix C

Profiles of New FSP Technical Staff

FSP was fully staffed at anticipated levels during 1988 (see Figure C-1, FSP organizational chart). No new permanent technical specialists were added to the FSP staff during the year. However, FSP benefited from the assistance of five temporary employees, who are profiled below.

Dr. Deborah Hill, Associate Professor of Forestry Extension at the University of Kentucky, was with FSP in June, working with Thomas Geary on environment and forestry education programs for children. Hill has degrees in silviculture, forest ecology, and environmental education, and she has worked as a consultant in the Dominican Republic, Haiti, and Ecuador. Through the Fulbright Program, she spent a year as a postdoctoral fellow in Finland, working on birch tree management.

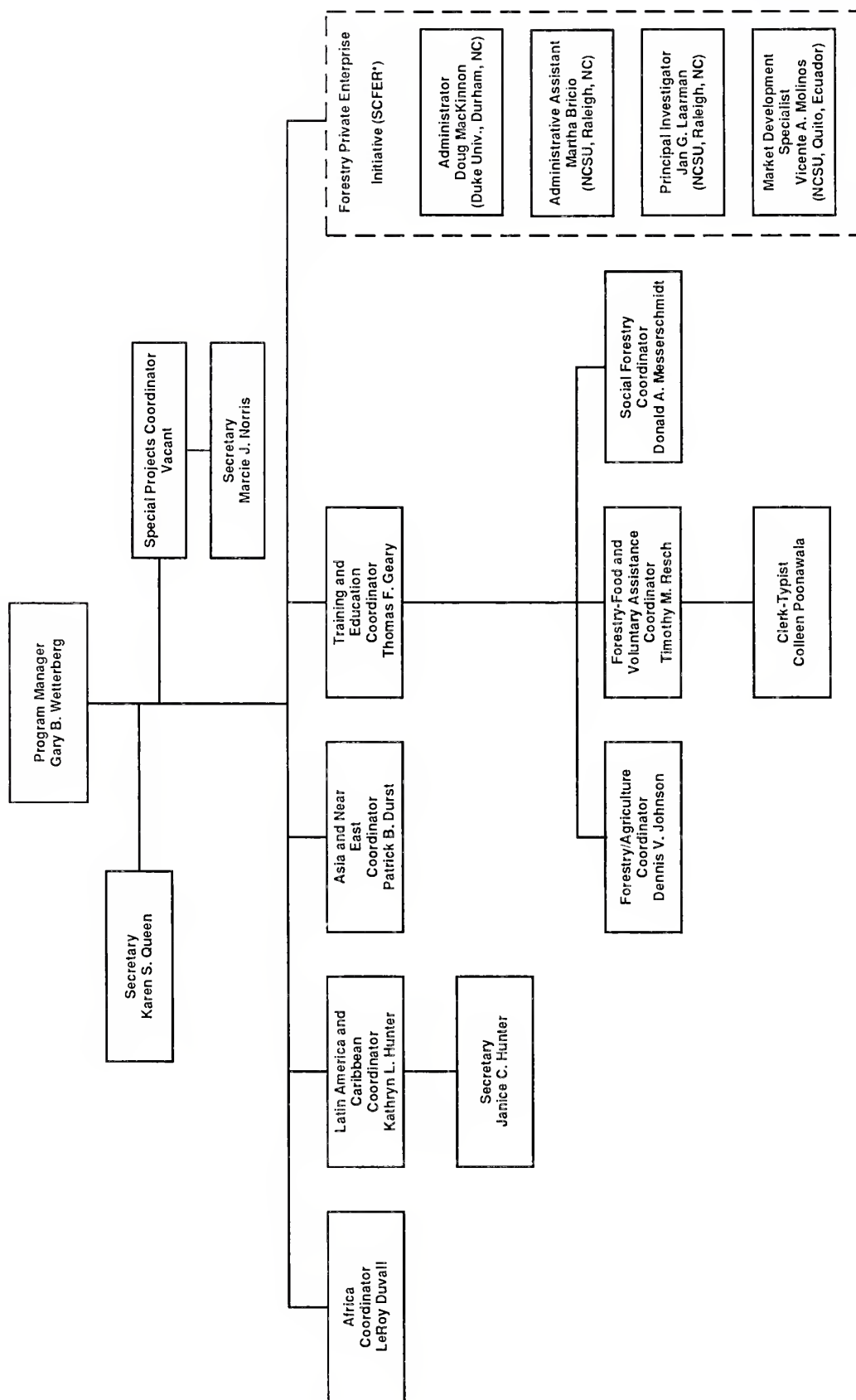
Linda Lind, an Advanced Forester Trainee with a degree in forest management, spent the summer working with Patrick Durst and other FSP staff to develop a portable display and a color brochure depicting A.I.D. and FSP forestry development activities. Ms. Lind, who served 3 years as a Peace Corps Volunteer with the Fiji Pine Commission, began pursuing a master's degree at the Yale University School of Forestry and Environmental Studies in late 1988.

Shanta Pandey, a Ph.D. Candidate at Case Western Reserve University, worked with Don Messerschmidt during the summer on a state-of-the-art paper on so-

cial forestry. Ms. Pandey, a Nepalese citizen, is an expert on improved wood stoves. Her dissertation research focused on wood stove use in the Himalayas. Ms. Pandey previously worked on gender issues in forestry with the Food and Agriculture Organization of the United Nations, the South East Consortium for International Development, and the International Centre for Integrated Mountain Development.

Gunter Jahnke worked with FSP for 6 weeks in January and February, managing the roster, monitoring contracts, and tracking the FSP budget while the FSP Special Projects Coordinator assisted the A.I.D. mission in Thailand. Jahnke, who is fluent in German, serves as the International Visitors Coordinator for the Forest Service's Eastern Region. Jahnke also assists the Forest Service with translating silviculture reports from German to English. He has held various Forest Service assignments, including 6 years as a District Ranger; he previously worked for 4 years in the USDA Office of the Inspector General.

Renee Thakali, Forest Service Forester on the Grand Mesa, Uncompahgre, and Gunnison National Forests in Colorado, spent much of August working with FSP as the Acting Coordinator for Asia and the Near East. Ms. Thakali has a master's degree from Michigan State University and served 3 years with the Peace Corps in Nepal. She began work as the Commonwealth Forester for the Northern Mariana Islands in Saipan in early FY 1989.



*The Southeastern Center for Forest Economics Research (SCFER) is a consortium that includes North Carolina State University (NCSU), Duke University, and the U.S. Department of Agriculture Forest Service Southeastern Forest Experiment Station.

Figure C-1: FSP organizational chart.

Appendix D

Reports Produced or Directly Influenced by FSP During Fiscal Year 1988

Reports Completed in FY 1988

- Alig, Ralph J., and C. Denise Ingram. 1988. *Ecuador's competitiveness in forest products: Some multi-country comparisons*. Forestry Private Enterprise Initiative (FPEI) Working Paper No. 38. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 44 pp.
- Davis, Robert R. 1987. *The effect of changing land use on erosion in the Mazar watershed*. University of Tennessee, Knoxville, TN. 18 pp. + appendixes.
- Devoe, Nora N. 1987. *The effect of light exposure level on the recruitment and growth of five tropical tree species*. Final report. Yale University, New Haven, CT. 6 pp.
- Durst, Patrick B. 1987. *Roster file search and maintenance manual*. Forestry Support Program, Washington, DC. 19 pp. + appendixes.
- Durst, Patrick B., and C. Denise Ingram. 1988. Nature-oriented tourism promotion by developing countries. *Tourism Management* 9(1):39-43.
- Durst, Patrick B. 1988. Supporting tropical forests. *Journal of Forestry* 86(2):inside back cover.
- Durst, Patrick B. 1988. *Potential forestry activities for the Thailand Management of Natural Resources and Environment for Sustainable Development (ManRes) Project*. Report prepared for A.I.D./Thailand. Forestry Support Program, Washington, DC. 65 pp.
- Durst, Patrick B. 1988. Nature tourism: Opportunities for promoting conservation and economic development. Presented at the International Symposium on Nature Conservation and Tourism Development, August 22-26, 1988, Surat Thani, Thailand. 14 pp.
- Durst, Patrick B. 1988. Wood-fired power plants in the Philippines: Where will the wood come from? In: David C. Lothner et al. (eds.), *Economic evaluations of short-rotation biomass energy systems*. IEA Information Report 88:2. International Energy Agency, Duluth, MN. pp. 322-341.
- Duvall, LeRoy. 1988. *The status of biological resources in Morocco: Constraints and options for conserving biological diversity*. Consultant report for A.I.D./Morocco, Rabat. 58 pp. + appendixes.
- Forestry Support Program. 1988. *Natural Resources and Disaster Management Roster Managers' Workshop summary report*. Forestry Support Program, Washington, DC. 64 pp.
- Forestry Support Program. 1988. *Making a difference in international forestry development*. USDA Forest Service, Washington, DC. 10 pp. (brochure)
- Forestry Support Program. 1988. *Progress report of the Forestry Support Program (FSP) 1987*. USDA Forest Service and Office of International Cooperation and Development, Washington, DC. 54 pp.
- Geary, Thomas F., and David Lowe. 1987. *Training of developing country nationals in the U.S. by USAID and FAO of the UN*. Forestry Support Program, Washington, DC. 5 pp.
- Gonzales, Carlos E. 1987. *A model for analyzing wood energy plantations in the Dominican Republic*. Master of science thesis. University of New Hampshire, Durham. 137 pp.
- Gow, David, LeRoy Duvall, and Herbert Stoevener. 1988. *Haiti Agroforestry Program (521-0217) draft project identification document (PID)*. Consultant report for A.I.D./Haiti, Port-au-Prince. 35 pp.
- Hannah, Lee, Gary Wetterberg, and LeRoy Duvall. 1988. *Botswana biological diversity assessment*. A.I.D./AFR/TR, Washington, DC. 72 pp. + appendixes.
- Healy, Robert G. 1988. *Economic considerations in nature-oriented tourism: The case of tropical forest tourism*. FPEI Working Paper No. 39. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 57 pp.
- Huke, Susan, and June Plecan. 1988. *Planning for agroforestry*. Save the Children Federation, Westport, CT. 68 pp.
- International Development and Energy Associates, Inc. 1988. *Forestry activities supported by the U.S. Agency for International Development*. USDA Forest Service, Washington, DC. 52 pp.

- Johnson, Dennis V. 1988. The potential contribution of agroforestry species to small farmer cocoa growing. In: *Proceedings of the First Inter-American Cocoa Forum, San Jose, Costa Rica, January 27-30, 1987*. Pan American Development Foundation, Washington, DC. 6 pp.
- Johnson, Dennis V. 1988. Book reviews (*Agroforestry: A decade of development* and *Agroforestry: Realities, possibilities, and potentials*). *Farm Forestry News* 2(3):8.
- Johnson, Dennis V. 1988. Palms as multipurpose cash and subsistence tree crops. In: D. Withington et al. (eds.), *Multipurpose tree species for small-farm use*. Winrock International Institute for Agricultural Development, Washington, DC. pp. 222-236.
- Krutilla, Kerry. 1987. *A businessman's guide to investment and trade in the forest products sector of Southeast Asia: Indonesia, Malaysia, and the Philippines*. FPEI Working Paper No. 32. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 58 pp.
- Laarman, Jan G., and Richard R. Perdue. 1987. *Tropical science as economic activity: OTS in Costa Rica*. FPEI Working Paper No. 33. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 25 pp.
- Laarman, Jan G., Timothy P. Stewart, and Jeffrey P. Prestemon. 1988. *International travel by U.S. conservation groups and professional societies*. FPEI Working Paper No. 37. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 18 pp.
- Leahy, Lawrence, Betty Lussier, Myrna Norris, Scott Posner, and Tim Resch. 1987. *Design for a multidisciplinary rural development project: Peace Corps/Tunisia—ODESPANO*. Report prepared for Peace Corps/Tunisia, Tunis. 49 pp.
- McCormick, Charles J. 1987. *Financial sensitivity of alternative forestation incentives in Ecuador*. FPEI Working Paper No. 30. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 18 pp.
- Messerschmidt, Donald A. 1988. *Notes for the social science of forestry: Some approaches to interactive research linkages for development forestry*. Presented to a meeting of national, donor agency, and non-governmental organization foresters, Khartoum, Sudan. Forestry Support Program, Washington, DC. 19 pp.
- Messerschmidt, Donald A. 1988. *Social science activities in the Forestry/Fuelwood Research and Development (F/FRED) Project: Background and discussion*. Forestry Support Program, Washington, DC. 22 pp.
- Messerschmidt, Donald A. 1988. Success in small farmer development: Paper making at Pang and Nanglibang, Nepal. *World Development* 16 (6):733-750.
- Mussack, Michael. 1988. *Diagnostico socioeconomico de los sistemas agroforestales de cacao, cafe y arboles de sombra utilizados en la produccion de madera en la costa de Ecuador*. FPEI Working Paper No. 35. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 99 pp.
- Mussack, Michael F., and Jan G. Laarman. 1988. *Farmers' production of timber trees in the cacao-coffee region of coastal Ecuador*. FPEI Working Paper No. 36. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 28 pp.
- Resch, Timothy M. 1988. *The Forestry Support Program: Bridge to USAID for the university and PVO communities*. Presented at the International Science and Education Council (ISEC) General Session, October 5, 1988. Washington, DC.
- Resch, Tim, Neils L. Roy Martin, and Jonathon Lachit. 1988. *Draft PID components: Natural Resources Management Project*. Chemonics International Consulting Division, Washington, DC. 105 pp.
- Smyle, James Walter. 1987. *Production of suspended sediment from small catchments in the mid-elevation wet zone of Sri Lanka*. Master of science thesis. University of Georgia, Athens. 31 pp.
- U.S. Agency for International Development. 1988. *Progress in conserving tropical forests and biological diversity in developing countries*. A.I.D., Washington, DC. 140 pp.

Welker, John C. 1988. *Application of a dynamic investment scheduling model to import substitution of softwood lumber in Jamaica*. FPEI Working Paper No. 34. Southeastern Center for Forest Economics Research, Research Triangle Park, NC. 12 pp.

Wetterberg, Gary B. 1987. *Concepts of natural resources conservation: An integral part of national development*. Presented at the National Conference on Natural Resources, November 9–14, 1987, Guatemala City, Guatemala. 5 pp.

Reports In Progress

CARE. *Agroforestry extension training sourcebook*. CARE, New York, NY.

Durst, Patrick B. *Eucalyptus robusta* Sm. Species monograph in preparation for publication by United Nations Food and Agriculture Organization (FAO) North American Forestry Commission.

Geary, Thomas F. *Melaleuca quinquenervia* (Cav.) S.T. Blake. Species monograph in preparation for publication by FAO North American Forestry Commission.

Guerron, Fernando. *Ventajas comparativas del sector forestal y maderero*. FPEI Working Paper No. 43. Southeastern Center for Forest Economics Research, Research Triangle Park, NC.

Laarman, Jan G., and Jeffrey P. Prestemon. *Employment and resource efficiency in Ecuador's small-scale forest enterprises*. FPEI Working Paper No. 40. Southeastern Center for Forest Economics Research, Research Triangle Park, NC.

Lampman, Scott E. *Analysis of a forestation incentive program in Ecuador: A rationale for modification and application*. FPEI Working Paper No. 42. Southeastern Center for Forest Economics Research, Research Triangle Park, NC.

Messerschmidt, Donald A. Book review (*Innocents abroad in the forests of Nepal: An account of Australian aid to Nepalese forestry*) for *Mountain Research and Development* and *Farm Forestry News*.

Messerschmidt, Donald A. Putting people and culture into conservation and development: A discussion paper. Forthcoming in Robert Hoage and Katy Moran (eds.), *Culture: The missing element in conservation and development*, proceedings of a conference at the National Zoo, Smithsonian Institution, April 8–9, 1988, Washington, DC.

Messerschmidt, Donald A. Stalking jobs at the FSP. Forthcoming in *Stalking a job in the Nation's capital* (2nd ed.), by the Washington Association of Professional Anthropologists, Washington, DC.

Messerschmidt, Donald A. Book review (*The hour of the fox: Tropical forests, the World Bank, and indigenous people of central India*) for *American Anthropologist*.

Messerschmidt, Donald A., and Shanta Pandey. *State of knowledge of social forestry*. Forestry Support Program, Washington, DC.

Prestemon, Jeffrey P. *Efficiency and employment in lumber-producing firms in Ecuador*. FPEI Working Paper No. 41. Southeastern Center for Forest Economics Research, Research Triangle Park, NC.

Resch, Timothy M. *Grevillea robusta* A. Cunn. Species monograph in preparation for publication by FAO North American Forestry Commission.



